

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
1	7	0	0	0	0	Some earlier comments re SD (O'Brien, Geoff, Northumbria University)	Comment unclear
2	7	0	0	0	0	This chapter is not able to communicate well succinct and key message/s. One would expect that it will deal with international policy, dominant perspectives, current and emerging focus and approach, analysis of financing particularly for risk reduction. (Jegillos, Sannv. UNDP)	Noted and will respond as far as possible. Limitations of space and priorities
3	7	0	0	0	0	Painfully I didn't have enough time to make comments about this chapter (Linayo, Alejandro, Research Center on Disaster Risk Reduction CIGIR)	Thanks.
4	7	0	0	0	0	Highlight key role of social movements and 'resistance' by civil society to 'business as usual'. (Glavovic, Bruce, Massey University)	This is beyond the scope of the chapter
5	7	0	0	0	0	I agree with the Note to Expert Reviewers at the beginning of the chapter expressing that the chapter still needs a lot of work. In its current draft, the chapter has valuable information but it is still scattered and doesn't have a good flow. Unfortunately I only saw this chapter very late after reading other chapters and didn't have much time to provide detailed feedback. I would like to propose to make a contribution in the coming weeks but I definitely need more time. As a general comment, I suggest the chapter starts with the historical perspective on the two topics, this would help clarify in particular the evolution of disaster risk reduction and management, which has a more complex development than that of climate change adaptation which is more recent, I can provide details on these. Another general comment is the need to explain some basic concepts from the outset as the terms disaster risk management, disaster risk reduction and disaster management are utilized some times for the same meaning, which is incorrect. DRR refers to the purpose (reducing risk) while DRM is the mechanism or instrument to achieve that purpose (managing risk), and DM is very different (managing the disaster). Also the notion of "natural" disasters which I advise to avoid as it is precisely one of the main obstacles to developing a culture of prevention; in many instances, 'disaster' can be utilized alone and in other cases, it means natural hazards. It is the hazard that creates the risk, disaster is the ultimate consequence and it happens when vulnerability is much greater than the coping capacity or resilience of the people or communities to the hazard. These and several other concepts still need some clarification. Additionally, as DRR is mainly a development activity, it would be important to show more the international processes related with development, not only MDGs but also other environmental conventions (UNCCD, etc.), the PRSPs, LDCs, SIDSs, etc, rather than the humanitarian int'l law which is more relevant to disaster management than to risk management. Kindly let me know whether possible to provide additional inputs in this regard in the coming weeks. I would need approximately up to the end of October as I have several travels coming up. (Briceno, Salvano, United Nations)	I personally met with Salvano in Geneva and listened to what he has to say. His comments and ideas have been responded to in the text
6	7	0	0	0	0	My personal suggestion for authors (given they ask it) is to re-structure section 7 this way: 7.1 as it is. 7.2.: 7.2.1 Systemic risks, 7.2.2 Economic efficiency, 7.2.3 subsidiarity, 7.2.4 Solidarity, then 7.2.5 as it is, but adding 7.4.1.1. and 7.4.2.2. at the end of it (they thus become 7.2.5.5 and 7.2.5.6.) removing them from 7.4. I would also delete from section 7.4 the whole section 7.4.2 and start directly with section 7.4.3. Section 7.3 could also be switched with 7.4. (Bosello, Francesco, Fondazione Eni Enrico Mattei, Milan University \)	Good suggestions but unable to change the received outline.
7	7	0	0	0	0	There is a lot of confusion in the text, as the authors are aware. Instead of going line by line I offer just a few remarks. (Hellmuth, Molly, International Research Institute for Climate and Society)	Noted.
8	7	0	0	0	0	What is the objective, the added value of combining CCA and DRM? Start from there- there is good text on this, but it gets lost. (Hellmuth, Molly, International Research Institute for Climate and Society)	We Have added more emphasis on the relationship between DRR and CCA
9	7	0	0	0	0	Confusion of the terms- DRM and DRR- what are you comparing to CCA? DRM or DRR? I assume it's DRR- because DRM is a physical entity- it has structure and institutions and implementation power. CCA is a political structure, manifested in practice by sectors/ institutions. Connecting DRR and CCA- is meaningless without the backdrop of development- these can't be disconnected. (Hellmuth, Molly, International Research Institute for Climate and Society)	The terms are being sorted out by the glossary committee and we will follow that.
10	7	0	0	0	0	Discussion on economic efficiency is disconnected from current issues surrounding the breakdown of Copenhagen- the reality of 'one fund' might not be possible, but many funds is the result. It's about streams of money, prioritization, double counting (potentially) and efficiency of addressing the problem. (Hellmuth, Molly, International Research Institute for Climate and Society)	Agreed. This section has been moved to chapter 4.
11	7	0	0	0	0	No clarity on what you mean by scales- or it seems to be about vertical scales of governance/geography, less on horizontal scales or temporal scales (which is at the heart of some of the distinctions between drr and cca) (Hellmuth, Molly, International Research Institute for Climate and Society)	The whole section on scales has been deleted and rewritten.
12	7	0	0	0	0	This might be the chapter to mention the ongoing efforts by WMO and partners to establish a 'Climate Services' (Hellmuth, Molly, International Research Institute for Climate and Society)	Yes, we have incorporated information on WMO and climate services.
13	7	0	0	0	0	CHAPTER OVERLAP: There are at times significant overlaps between Chapters 5, 6 and 7 and boundaries between "local", "national", and "international" are not always clear, but would encourage cross-chapter communications to reduce redundancy. (Stocker, Thomas. IPCC WGI TSU)	We are attempting to do this within time constraints. Inter-chapter coordination has been a major difficulty in the report.
14	7	0	0	0	0	SUPPORTING EVIDENCE: Strong and/or sweeping statements are often made based on zero or only one reference. Important information to convey, but you must provide evidence to support these statements. Providing more than one credible source strengthens your assessment. (Stocker, Thomas. IPCC WGI TSU)	Agreed. We have tried to improve on this by including more references.
15	7	0	0	0	0	FOCUS AND SHORTEN: This Chapter needs to be better focused and much reduced in length and detail. As noted by the authors themselves on page 1, there is too much description and not enough assessment. If the information is not there to make an assessment, the Chapter should say so. Several sections are written as questions which is also not a substitute for an assessment. (Stocker, Thomas. IPCC WGI TSU)	We have tried to give more focus. We have had to rely on a lot of grey literature and this is identified..

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16	7	0	0	0	0	CLIMATE FOCUS: This chapter sometimes reads like a primer on the various frameworks, declarations, protocols, action plans, etc. and provides excessive detail. This chapter would benefit by limiting the material presented to include only those specific components relevant to climate change. In several instances the relationship or relevance to climate change is not made clear. (Stocker, Thomas, IPCC WGI TSU)	We have narrowed the focus much to the regret of some other commentators and authors.
17	7	0	0	0	0	UNCERTAINTY: General comment on the treatment of the words "likely", "very likely", etc. throughout the chapter text. In IPCC, "Likely", "very likely" and all other expressions from the IPCC Uncertainty Guidance are part of calibrated IPCC language and therefore reserved. These words can only be used in relation to the formal treatment of uncertainty! They are formal terms used to quantify the likelihood of an outcome or result where a probabilistic basis can be established. For clarity and consistency, these words (e.g., "likely", etc.) can only be used when assigning a formal likelihood statement. In order to clearly visualize this in the text, they appear in italicized form as per the uncertainty guidance provided to all authors. (Stocker, Thomas, IPCC WGI TSU)	We are now following the new guidance document prepared for AR5. But it should be noted that uncertainty guidance does not apply to the management literature in the same way as it applies in the natural sciences. It is not possible to apply the strict rules of natural science to the social, cultural, and management sciences.
18	7	0	0	0	0	POLICY PRESCRIPTIVE: An IPCC assessment provides policy relevant information in a neutral, objective and factual manner. Care must be taken to avoid straying into advocacy nor to become policy prescriptive. (Stocker, Thomas, IPCC WGI TSU)	We know, we shall, we have..
19	7	0	0	0	0	CROSS-CHAPTER FAQ: Consider a cross-chapter FAQ for Chapters 5, 6 and 7 on managing the risks of climate extremes at the local, national and international level? (Stocker, Thomas, IPCC WGI TSU)	There has been insufficient opportunity to work across chapters to the extent desirable We held a cross chapter meeting in Geneva to try to deal with this and other issues..
20	7	0	0	0	0	Again lots in insurance – should such an important topic be part of a separate chapter? (O'Brien, Geoff, Northumbria University)	We try to deal with insurance at the international level.
21	7	0	0	0	0	This Chapter is the best part of the document. I have only one suggestion. Can you include some examples how are international strategies implemented at the national and local levels? Is there a measure that can justify the contribution of the international effort? (Simonovic, Slobodan, University of Western Ontario)	We have rewritten 7.5 and .7.6 to try to do this.
22	7	0	0	0	0	As the focus of the report is on Extreme Climate Events, it is suggested that only those international frameworks directly relevant to the theme could be addressed, viz., HFA, UNFCCC, and MDG. If we treat this topic of international level management of these frameworks in an evolutionary manner, it could provide a coherent storyline, leading to appreciation for their potential convergence into coherent DRR and CCA frameworks. If this suggestion is accepted, Sections 7.3, 7.4, 7.5 could be re-written. (ARJUNAPERMAL, SIJBRIAH, ASIAN DISASTER PREPAREDNESS CENTER)	Yes we are now focussing on HFA, UNFCCC, and MGDs. This means leaving a lot out But we have limited space and focussing on HFA, UNFCCC, and MGD seems the best way to proceed.
23	7	0	0	0	0	The chapter is well formed and presented. There is, however, a lack of recognition and mention of the issue of managing risk at the international level and integration across scales in regards to something beyond the CC, CCA and DRM communities. Development and the development community would seem to be only implicitly referred to by the very scarce mention of "sustainable development" (Bender, Stephen Bender, Organization of American States (retired))	Sections totally rewritten.
24	7	0	0	0	0	International level efforts in managing adverse impact of climate change in water sector is has not been addressed. Management of water resources of transboundary river will demand intervention at regional and international level otherwise effective management of flood and drought will not be effective and efficient. (Nishat, Ainun, BRAC University)	True, and also many other sectoral issues not dealt with adequately. Scope of chapter much too large for the space allocated. Selection was necessary.
25	7	0	0	0	0	Risk management is a serious work in this part. (Yasseen, Adel, Ain Shams University - Institute of Environmental Research and Studies)	We agree and have tried to show this.
26	7	0	0	0	0	The "Note to Expert Reviewers" demonstrates that the authors clearly recognize the major limitations of the chapter. They note that it is largely descriptive and lacking in assessment. This is a significant problem - readers do not come away with an understanding of what is known and what needs to be researched further. There is likely need for a preface to explain the limitations of available literature - if this applies broadly to other chapters perhaps there is only to reference back to the introductory chapter (which I have not read). Nonetheless to warrant inclusion in an IPCC product the value added component arising from assessment needs to be evident. At present it is largely a review paper minus that added value. Some suggestions to address this are presented below. (Lemmen, Donald Stanley, Natural Resources Canada)	Agreed. We have tried to reduce the description and expand the assessment, but we are handicapped by the lack of assessment literature in the peer reviewed literature and have had to rely a lot on grey literature issued by government agencies.
27	7	0	0	0	0	I would suggest to add also here as a relevant reference about risk management policies at the international level the "European Union Directive 2007/70/EC on the assessment and management of flood risks" which recommends to take into consideration long term developments, including climate change in the flood risk management practices. (Ranzi, Roberto, University of Brescia)	Cannot include everything. The regional level between national and international (global) has been largely omitted. We regret this but there is not enough space allocation.
28	7	0	0	0	0	The approach of the authors to highlight weaknesses of the current text in their "Note to Expert Reviewers" is appreciated. (Fuessel, Hans-Martin, European Environment Agency)	Thanks.
29	7	0	0	0	0	The messages need to be defined more clearly. Executive summary needs to be organized to reflect discussions through the chapter. Why is it critical to manage risk at international level? There are many activities and efforts at international levels which are not materials for or focus of traditional peer-review journals. However they have based on international collaborations and agreements, and are critical in increasing resiliency to climate-induced extremes. It would be helpful to highlight examples to illustrate cooperation at international scales have benefits at national/local scales. For example, consensus climate outlooks of ICPAC (IGAD Climate Prediction and Application Center) and other climatic regions around the world, WMO initiative in flash flood guidance that illustrates international efforts and linking global data to regional entities, national governments and communities, Mekong River Basin Commission on flood management, and WMO climate services initiatives. (Tokar, Ayse Sezin, U.S. Agency for International Development)	Executive summary has been rewritten to reflect revised text. Many things still omitted for space reasons.

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30	7	0	0	0	0	Discussions and descriptions of international legal obligations, laws and various other legal instruments, UNFCCC, HFA were excellent but they are fairly long. These descriptions can be shortened and appropriate references (or urls) can be provided for details to make more room for informal international activities and examples. There are various activities such as WMO climate services initiatives which can be used to highlight value of international efforts on CCA and DRR and to motivate improved transboundary collaborations on climate resiliency. (Tokar, Ayse Sezin, U.S. Agency for International Development)	Have tried to shorten them, and make room for WMO etc..
31	7	0	0	0	0	Reducing vulnerability to disasters and climate change includes many dimensions in addition to legal and risk transfer approaches which needs to be highlighted in this section. The discussions need to include efforts to reduce lives which are the most visible aspect of DRR in addition to economic impacts of extremes. One of the major challenges of DRR is to reduce loss of lives and social impacts which are among the main concern of DRR community and needs to be emphasized more through the chapter. (Tokar, Ayse Sezin, U.S. Agency for International Development)	Agreed, and we try to respond to this. Except to say that reduction in mortality has been comparatively successful compared with economic losses.
32	7	0	0	0	0	The chapter needs an overall conclusions and recommendations section summarizing the findings and making recommendations. (Tokar, Ayse Sezin, U.S. Agency for International Development)	Yes, sections rewritten, but please note that we are expected to be ;policy neutral and not make policy recommendations.
33	7	0	0	0	0	Considering that this chapter has a contents more guided for the managers, it is appropriate including a title or paragraph than implicate the acceptance criterions of the risk for the local and regional level, among themselves the optimization of the investment of public resources, the need of coordination between the institutions, the interrelation with the capacities of territorial management, etc., as he draws together of the forms the capacity of adaptation for the better, in addition to the definition of the level of acceptance of risk. (Lamprea Quiroga, Pedro Simon, Ideam - Advisor (Colombian institute of hydrology , meteorology and environmental studies))	Yes, but these matters are handled in other chapters. see 1,2,4,
34	7	0	0	0	0	This looks an interesting chapter and I apologize for not have left enough time to read it properly before the dreaded deadline of Dave Dokken. (Basher, Reid, Secretariat of the High-Level Taskforce on the Global Framework for Climate Services)	Thanks.
35	7	0	0	0	0	The chapter switches between DRR and DRM. It is unlikely that readers will understand the difference. It would be good to harmonize across the chapter. (IPCC WGII TSU)	We have opted for DRR
36	7	0	0	0	0	There are several sections that are more a review than an assessment. It is important to evaluate the literature and reach conclusions based on all the evidence. (IPCC WGII TSU)	We have tried to move in this direction despite the lack of assessments in the peer reviewed literature.
37	7	1	0	23	0	Up to 7.4.2 (O'Brien, Geoff, Northumbria University)	Thanks.
38	7	1	0	23	0	Thanks are owed to the authors on their honesty – this is very problematic area and the authors have worked hard in trying to come to grips with the problem. Simply put there is no universal justiciable right with respect to sustainable development (SD). SD is the framework in which DRR and CCA should operate. As well as no right there is no universally accepted definition – Brundtland is the most commonly accepted definition but this is interpreted by states in different ways – simply put what are we trying to sustain? And why? The problem lies in the sector approach – economy, society and environment – to SD – but it is only environment that can exist without the other 2 sectors, but it appears that economy is the dominant interpretation – or emphasis of SD. There is a considerable literature on this. Perhaps the starting point for DRR and CCA should be the MDGs – in short from a vulnerability perspective. (O'Brien, Geoff, Northumbria University)	Thanks Agreed. This is covered in other chapters see 1,2,4
39	7	1	0	43	0	Overall the chapter deals with an array of important considerations in a judicious, balanced fashion. Two possible areas that need more detail are the International Development Banks and there approaches--many now have a technical document or statement as to the integration of the two themes (many may even be waiting for this report before emitting final criteria); and the regional country groupings and their attitude and support mechanisms. Thus for example from an area we know well, the Central American Integration System-SICA- through its specialised agencies has formulated and approved policies and strategies that promote the integration of CCA and DRM. This also occurs at the Andean Community level , through CAPRADE and other regional organisations. The need to look at duplicity of dealings with different themes is necessary across the board with all chapters. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	We have chosen to focus on 3 international institutions MGDs, DRR, and CCA or ISDR and UNFCCC. Space limits consideration of many other important players.
40	7	1	0	61	0	Terms "cost" use in several parts of the text often needs to be rephrased by "economic loss", since the concept of opportunity cost has been emphasized in previous chapters. (Kondo, Masahide, University of Tsukuba)	The economics section has been largely transferred to chapter 4.
41	7	1	22	1	23	The chapter is longer than it need to be given the current content. Many sections contain considerable detail marginally relevant to the nexus of CAA and DRM. Consolidating material related to - for example - international law, the UNFCCC, etc, would strengthen coherence and remove repetition (e.g. reference to the Bali Action Plan in at least four different sections). Sections 7.1 and 7.2 could be rolled into a single introductory section or - respecting the approved outline - two short sectionssections 7.3-7.5 are the substantive element of the chapter but all could be tightened - while 7.5 and 7.6 are much of the value added component. Section 7.6 needs to be strengthened by working with key findings from chapters 5 and 6. (Lemmen, Donald Stanley, Natural Resources Canada)	We have shorted some sections and 7.5 and 7.6 have been completely rewritten
42	7	1	24	1	31	A starting point for enhanced focus would, be to re-examine the introductory questions which - while all relevant - are extremely broad, and decide if they all need to be explored in detail to achieve the goal of the chapter. When reading the chapter I envisioned a 3-circle venn diagram with the circles representing CAA, DRM and International Institutions, and expected the chapter to focus on the area of overlap. At present it describe all elements of the three circles, but doesn't particularly highlight the area of overlap. (Lemmen, Donald Stanley, Natural Resources Canada)	We have struggled to find or create a good diagram without success so far. There are diagrams in other chapters.

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43	7	1	24	1	31	From my reading of Chapters 1 and 6, there appear to be good opportunities to redistribute materials and avoid repetition across the whole report. (Basher, Reid, Secretariat of the High-Level Taskforce on the Global Framework for Climate Services)	Yes this is a huge problem. The way the report is written and compiled allows minimal opportunity for the integration and consistency of the whole report. It would be easier if the chapters could be written consecutively rather than simultaneously, but there is insufficient time.
44	7	1	32	1	33	The issue of the "flow"/"story line": This is work in progress and I agree that the chapter could flow better and read as an integrated piece. My suggestions on this issue are as follows: 1. have bridging paragraphs, either as introductions or conclusions to major sections (i.e. to 7.1, 7.2, 7.3 etc) indicating what will be/has been covered and how it will feed/feeds into the material in the next section(s); 2. make frequent use of cross-referencing between sections and subsections, as has been done between this chapter and others. To bring all major ideas of the chapter together, I would suggest that you add a concluding section (7.7) for the space that will be liberated by reviewers or as agreed among the authors. In drafting the concluding section, the authors should be mindful of how this could contribute ideas to the final chapter of the report (Chapter 8), which I believe should draw strongly from the preceding 7 chapters. (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	Thanks - good comment -we have responded by the inclusion of more Bridge passages..
45	7	1	32	1	33	While the story line in constrained by the approved outline headings, these do tell a basic story. The story being told within sections - reflected in the subheadings - is less clear. the lead authors might consider removing all of the sub-headings from an intermediate draft, at which stage the current disconnects will be extremely obvious. Once flow is obtained, reintroduce sub-headings as appropriate. If something does not fit the storyline, it does not belong in that section, and perhaps is not needed in the chapter. (Lemmen, Donald Stanley, Natural Resources Canada)	We have experimented a lot with the sub headings and think it is better now!
46	7	1	34	1	35	A description is not a substitute for an assessment, so if the information is not there to do an assessment, the Chapter should say so. (Stocker, Thomas, IPCC WGI TSU)	We have made a comment about the relative lack of assessment literature.
47	7	1	34	1	39	The issue of the imbalance between risk management and assessment material consulted: I share this concern, but the problem is a reflection of the fact the creation of risk/hazard management structures/institution has outpaced investment of effort and resources in climate risk analysis at the various levels of governance, particularly for developing regions. And yet risk assessment data is crucially important to risk mngement or human response to hazards. The authors may wish to refer to browse through the working papers produced by the Institute of Social and Environmental Transition (ISET) compiled together by Marcus Moench & The DRR Study Team, ISET (2008) from case studies conducted in India, Pakistan and Nepal. The publication is online and is entitled "From Risk to Resilience - Benefits and Costs of Disaster Risk Reduction ". The last two working papers of the compilation might be especially useful. The Hazard Risk Assessment website: http://www.proventionconsortium.org/?pageid=46#search might also point to some material relevant to the chapter, although much of it would be more useful to Chapter 5 or 6. (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	Thanks. We will try to follow this up.
48	7	1	34	1	39	This captures the greatest problem with the chapter. If the lack of "assessment literature" is a critical limitation, this needs to be acknowledged up front in the chapter (a preface?). However simply drawing the literature from the two communities and highlighting what we do know is a value-added contribution. There is a tendency at present to decribe the CAA and DRM components seperately. It would be desirable to structure around topics of convergence so that each each section - even each paragraph - draws from literature within both major fields and starts the integration process. Also, there are complete sections without any references (e.g. 7.5.4). This should not be the case in an IPCC report. (Lemmen, Donald Stanley, Natural Resources Canada)	We are conscious of these difficulties and have done what we can to find assessment literature and to draw upon office grey literature..
49	7	1	34	1	39	A second important point is to acknowledge is that the content of documents produced by governments through international negotiation of either political or technical type, have a validity at least equal to scientific peer reviewed literature. It is just a different "peer process". The assessment of such documents is different What has to be assessed is not a whether independent scientists agree on something they write about, but whether the "official" document is relevant to the topic in hand, was generated by an authoritative process, has widespread endorsement, is actively pursued by the relevant actors, is consistent with scientific knowledge (e.g. IPCC conclusions). Maybe other characteristics we could think about. In writing this chapter you should think about evaluating "tools for action" rather than just decribing things. The tools are agreements, policies, commitments, and other instruments. (Basher, Reid, Secretariat of the High-Level Taskforce on the Global Framework for Climate Services)	Agreed 100% This comment should be sent to all the TSUs and the Secretariat.
50	7	1	40	1	43	Specific sections made below. Section 7.4.5 is quite strong and perhaps a useful model. Section 7.6 really doesn't address its goal of Integration Across Scales (also a key element of the chapter title) and needs to draw extensively from the findings of chapters 5 and 6. (Lemmen, Donald Stanley, Natural Resources Canada)	Agreed and will address this 7.6 has been rewritten.
51	7	1	45	1	46	in response to the authors call for additional "contributing authors": I would be available to help. From 22nd September I will be taking up a role as Senior Visiting Research Fellow at the London School of Economics, giving up my role at the Association of British Insurers. (Surminski, Swenia . Association of British Insurers)	Sorry that there has been no time or opportunity to take you up on this kind offer.
52	7	1	47	1	52	As the authors indicate in this note, the use of a timeline or history of development needs great care because it too readily becomes policy prescriptive. (Stocker, Thomas, IPCC WGI TSU)	We considered doing this and rejected it.

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53	7	1	47	1	52	This approach is worth exploring as long as the CAA and DRM components are integrated. Even if it does not provide a different approach to the chapter, it should create a very informative and useful figure. Caution needs to be exercised in describing principles in a manner that avoids interpretation (particularly with respect to negotiated language), and it may be important to quote such language to avoid interpretation bias. (Lemmen, Donald Stanley, Natural Resources Canada)	We are discouraged from using extensive quotes but will do so where appropriate.
54	7	3	0	4	0	We believe this is an important chapter, but would like to see the most significant findings summarized here, especially with regard to the options and opportunities for DRM and CCA (ch 7.4), considerations for future policy and research, ch 7.5. and integration across scales, ch. 7.6. Furthermore, we are amazed that the entire chapter lacks mentioning of the important work of the WMO on designing and establishing the Global Framework for Climate Services, which will collect and disseminate targeted weather and climate information worldwide. This information is essential for adaptation and disaster risk reduction purposes (http://www.wmo.int/hlt-gfcs/index_en.html). We suggest information on this be added in the Executive Summary as well as in the section on WMO on page 22, l. 6-18. We further suggest including the text on page 25, l. 29-32, which summarizes findings on the projected costs of climate induced extreme events. (Asphjell, Torgrim, Climate and Pollution Agency (Norway))	Agreed. A lot of specialised agency content has been left out due to space considerations. Once you start to talk about WMO there are 100 others who want to have their programmes described. We have now included some information on WMO and climate services.
55	7	3	4	0	0	The Executive Summary does not provide a summary of the key messages - this needs to be rewritten (Surminski, Swenja , Association of British Insurers)	It has been rewritten
56	7	3	34	0	0	This executive summary lacks a linkage to the underlying chapters, does not offer a storyline at the beginning and includes only very general statements that do not raise the appetite to study in more detail the assessment made. (Radunsky, KLaus, Umweltbundesamt GmbH)	It has been rewritten
57	7	3	34	0	0	The present Executive Summary does not leave a strong impression of key findings, beyond there being great potential for integration of CAA and DRM and there is a need for a lot more research. I think this can evolve considerably once information from Chapters 5 and 6 are integrated and section 7.6 is developed more fully. (Lemmen, Donald Stanley, Natural Resources Canada)	Re written
58	7	3	34	0	0	Consider restructuring your Executive Summary so that each paragraph presents a key summary statement, additional explanation, and reference to relevant chapter sections. This would provide a clearer presentation of the key points. To the extent possible, consider opportunities to present specific key findings, as well as the degree of certainty your author team has in those findings, per the new uncertainty guidance that will be available at IAM3 (IPCC WGI TSU)	This has been done.
59	7	3	34	4	42	Executive Summary: This is quite vague at the moment and grammar fairly bad. However, I realize that this is an incomplete "first cut" (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	Now rewritten
60	7	3	45	3	49	One of the major goals of DRR is to reduce loss of lives in addition to lessen social and economic impacts of disasters. Disaster statistics and trends indicate that although economic impacts as reported and total number of people affected, especially from hydrometeorological disasters are on the rise, there is a significant decline in loss of lives (OFDA-EMDAT, CRED). Economic impacts of disasters are definitely a challenge to DRR. However, the results are encouraging, especially considering our vulnerability has increased significantly due to population growth, rapid urbanization, environmental and resource degradation and increasing economic activities. (Tokar, Ayse Sezin, U.S. Agency for International Development)	This part of the text has been deleted or removed to chapter 4.
61	7	3	47	3	49	Can this statement be supported from various data rather than just Munich RE?. If the answer is yes, which am sure it is, then the reference to Munich RE data here should be removed so that it becomes a general, robust summary statement, rather than a statement that could be misinterpreted as a trend only found in Munich RE data. (Stocker, Thomas, IPCC WGI TSU)	This part of the chapter has been deleted.
62	7	4	1	0	2	Please explain what is growing inequalities or provide examples. (Tokar, Ayse Sezin, U.S. Agency for International Development)	Deleted.
63	7	4	5	4	18	The statements are very general and needs to be tailored to the CCA-DRR intersection that requires international attention. What are these challenges or obstacles to CCA/ DRR, especially at international levels? For example, what are the obstacles for governance and legal issues? Are they lack of policies in place or enforcement or implementation of legal instruments? What are the uncertainties? Is it the science of CCA or implementation of DRR or CCA actions? (Tokar, Ayse Sezin, U.S. Agency for International Development)	We have focussed much more on DRR and CCA in the SOD.
64	7	4	8	4	8	"could be made available" phrase creates a mis-perception that the opportunities are somehow "available to be granted" by (presumably) the (anonymous) international community of interests. This seems contrary both to reality and the desired emphasis as the truer situation actually is that because they already exist, the onus of wider and more effective use of these opportunities actually lies with the readiness and willingness of primary agents (most likely within governmental and/or organizational authorities) to avail of their existence and informed application. This may be a nuanced viewpoint, but it is important as it locates the responsibility squarely amongst the immediate "users" rather than academically projecting the possibility onto external and distanced un-named "providers". This unwisely externalizes the motivation and responsibilities to ... no one in particular. (Jeggle, Terry, University of Pittsburgh)	True, we have to be very cautious to avoid being policy prescriptive so the choice of language is difficult. Your further inputs as a CA would be welcome

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
65	7	4	11	4	14	This is an important point and with reference to the Reviewers' Note, items 2 and 3 should serve as a primary "red thread" throughout the Chapter. There is an additional important implication though and that is to do so successfully will necessarily require a much wider remit of respective professional interests and disciplines that go much beyond traditional "development and disaster outlooks and related organizations. This is inherent as soon as one considers the wider responsibilities and multiple approaches, professions or tasks that contribute to purposeful DRM, in contrast to the more narrowly described functions of emergency or disaster management. The recognition of this expanded "keyhole" to a productive synthesis of DRM and CCA is crucial, even as it flies in the face of Reviewers' Note item 2. (Jeggle, Terry, University of Pittsburgh)	Agreed, noted, have tried to respond appropriately.!
66	7	4	16	4	16	Again, the phrasing of "deployment" suggests that this is necessarily a supply-side issue rather than more usefully emphasizing the roles and indeed responsibilities of access and availed engagement on the part of the primary active agents in situ, rather than it unitarily being suggested it needs to be "provided" and placed there by other (external) international agents. There seems to be an inbuilt and implied assumption that this needs to be done by others, rather than the more efficacious need of its being acknowledged, understood and applied by the principal parties most immediately concerned. (Jeggle, Terry, University of Pittsburgh)	Yes, but the reason for this is that the chapter focuses on international - but see our text on subsidiarity.
67	7	4	16	4	18	There is a clear lack of appropriate linkage in the global agenda between the topics of DRM, CCA and CCM (climate change mitigation) and the economic/financial institutions and international cooperation, i.e. the link of trade negotiations as conducted in the context of the WTO or the financial international agreements under the IMF/WB. Current climate change negotiations and international trade negotiations are both at an impasse (the Doha or development round and the COP are stalled) that bears discussing in the context of this chapter. The key issue to be discussed, beyond subsidiarity, solidarity or cooperation and synergies is the non binding character that at present DRM and CCA/CCM are both at national and international levels. Binding responsibilities, albeit of a different level of compliance, between developed and developing countries (linked to on the one hand their current level of emissions and on the other on the rate of growth of those emissions) are difficult negotiating topics --just as in trade negotiations degree of liberalization is asymmetric and negotiation of bound levels keeps stalling the trade round given persistent inappropriate subsidies and non-tariff technical barriers, one of which is now carbon levels incorporated in traded goods and services. Appropriate literature and citations to be found or indicate lack of it as a problem and a research area to be pursued. (Zapata-Marti, Ricardo, United Nations Economic Commission for Latin America and the Caribbean (ECLAC))	Yes, we know and have moved in the opposite direction and talk very little about funding... it is a gap and a weakness but it is a matter of space and priorities - we hope it is more address in chapter 6 on national needs.
68	7	4	20	4	25	Please provide specifics for CCA-DRR. What is the priority and focus of recommended research at international level? (Tokar, Ayse Sezin, U.S. Agency for International Development)	We are still a bit short on research priorities - but have improved the text over the FOD.
69	7	4	27	4	30	The outlook expressed here and to a larger extent that infuses the chapter as a whole seems to capture or "bound" the issues only within the context of international agendas and the development paradigms and their related keystone objectives. As one speaks of the synergies sought for wide and more effective application though, it seems crucial to place both the subjects as well as the numerous advocated action within the more specific locus of routine and day-to-day performance of governmental and professional responsibilities and performance. This comes down to the types of functions referred in the following lines 30-32 but with the important addition of "across relevant subject areas and professional "sectors". This is the crux of the issue, essentially to delink the issues and actions involved from developmental theory or institutional expression and instead locate them squarely in the midst of daily functional responsibilities. (Jeggle, Terry, University of Pittsburgh)	Yes, but this is the INTERNATIONAL chapter. Other reviewers propose the opposite approach.
70	7	4	27	4	30	Previous and later references are to "DRM", but yet here DRR is inserted without distinguishing elaboration. Does one assume that the expressions are one and the same, or different, and if the latter, how so ? This invites the type of confused language or slipshod assumptions that all are either conversant or convinced of the respective meaning(s) intended. (Jeggle, Terry, University of Pittsburgh)	The glossary committee is working on this and we are using DRR and CCA and mostly not DRM
71	7	4	27	4	32	Providing specific examples will aid reader to understand the value of working at international scales. An example of this activity would be working in river or ocean basins to share data and information to avoid transboundary hazards such as floods, cyclones and droughts. (Tokar, Ayse Sezin, U.S. Agency for International Development)	Agreed, space limitations plus the case studies chapter 9.
72	7	4	27	4	39	As a general comment for the entire chapter - abbreviations need to be spelt out in full when they are first used. Many readers from other scientific communities will not be familiar with these terms. The examples in these lines are MDGs and HFA. (Stocker, Thomas, IPCC WGI TSU)	Will be trying to follow the SREX glossary.
73	7	4	28	4	28	Define "MDG" (Rock, Joachim, Johann Heinrich von Thuenen-Institute)	Have done.
74	7	4	45	0	0	Efficient knowledge. But very inclined to talk about "resilient society.." as capacity to , and knowing how to take innovative advantages of disasters and extreme events. (Yasseen, Adel, Ain Shams University - Institute of Environmental Research and Studies)	Noted
75	7	4	47	4	52	Previous and later references are to "DRM", but yet here DRR is inserted without distinguishing elaboration. Does one assume that the expressions are one and the same, or different, and if the latter, how so ? This invites confusion if the distinctions are not evident. If both expressions are to be used to different purpose, then it is better that they be explained here at the outset. (Jeggle, Terry, University of Pittsburgh)	We have mostly used DRR and will follow the SREX glossary.
76	7	4	47	4	53	This first statement is rather more an introduction to the chapter than talk of the international level of risk management. Then on page 6, line 50 to page 7 line 3 we come back to a presentation of chapter content that maybe should be linked to the first paragraph on page 4. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	Noted.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
77	7	5	4	5	10	These questions, which relate to CAA , DRM and development, set the stage for a very broad discussion. I recognize you have asked these in part to define the storyline. However, you might consider if these questions could be revised to help narrow the scope. While simplistic, it strikes me that the overarching question might be How can international institutions / agreements facilitate the integration of CAA and DRM principles / approaches in order to reduce vulnerability / enhance resilience from local to global scale. Its not a story line, but it does provide focus. (Lemmen, Donald Stanley, Natural Resources Canada)	Thanks We have treid to do just that.
78	7	5	4	5	10	It would be easier if these were bulleted, to make it easier to refer back to them. (IPCC WGII TSU)	OK
79	7	5	6	5	6	The third question: "What institutions exist and what capacity do they have?". Reading through the relevant section and subsections, I formed the impression that little was written about capacity than about institutional scope or mandate (except for UN institutions such as GEF). (CHANDA. RABAN. UNIVERSITY OF BOTSWANA)	We have expended some of the text accordingly.
80	7	5	12	5	39	Seeing as this data and info is also at present in VARIOUS OTHER CHAPTERS WE REALLY SHOULD TRY TO CONSOLIDATE ALL IN ONE PLACE AT THE BEGINNING SUCH AS TO ESTABLISH WHAT IS THE PROBLEM AS REGARDS LOSS TODAY AND WHICH OFFERS A BACKGROUND TO LOSS AND ITS MANAGEMENT IN THE FUTURE. By this means a few words and lines would be saved in this chapter for other things. Moreover the detail of loss and growth in loss goes beyond the data itself and this is of general interest to this study. The question is if we have not been able to put a break on disaster loss over the last 50 years and it is in fact growing rather more geometrically than arithmetically with increases in exposure and vulnerability, how can we imagine contributing greatly to reduction of loss in the future through DRM? This is a major problem and the data should be accompanied with such a caveat because it colors all our reflections as regards what is needed in the future in order to be able to think that DRM and adaptation can function. If we have not been able to do it during the last 5 decades more than sporadically and in certain places, what makes us think we can do it in the future? (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	Text removed or put in other chapters.
81	7	5	18	5	18	Following the sentence based on GAR (2009) a new sentence should be inserted based on the most recent assessment given here in SREX chapter 3. Something like: "Furthermore, Chapter 3 of SREX have reported observed and projected increases in the frequency and/or magnitude of many climate extremes, but caution that confidence in these past and future changes is highly variable (See Chapter 3). Wherever possible, statements concerning physical science in Chapter 7 should be based upon the appropriate SREX chapters. (Stocker, Thomas, IPCC WGI TSU)	Noted and done.
82	7	5	20	5	44	Please refer to Chp 4 and delete most of this text. (IPCC WGII TSU)	Done.
83	7	5	26	0	0	CITE (Hellmuth, Molly, International Research Institute for Climate and Society)	OK
84	7	5	29	0	0	Figure 7-1: Using Munich Re as the source for overall lossess highlights the absence of national reporting on HFA implementation as to the Expected Outcome of HFA. (Bender, Stephen Bender, Organization of American States (retired))	Text deleted.
85	7	5	29	5	29	Figure 7.1. Data should be available from Munich Re up to 2008 or 2009 - which would be preferable to data only to 2006. (Jeggle, Terry, University of Pittsburgh)	Text moved to chapter 4 or deleted
86	7	5	31	5	34	Figure uses income groups not developed and developing countries; be consistent (Stocker, Thomas, IPCC WGI TSU)	OK
87	7	5	41	5	42	Please present evidence and references to support this general statement that indicators of disaster loss have worsened. (Stocker, Thomas, IPCC WGI TSU)	Text deleted.
88	7	5	41	6	7	Again, this part is very important but seems to be something of general interest to all the study and could be removed from here and placed up front as a general consideration in chapter 1 or as a prologue to the whole study. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	Reconciliation is underway! And has been attempted.
89	7	5	44	0	51	not well articulated- if DRR fundamentally isn't working, why should combining them work? (Hellmuth, Molly, International Research Institute for Climate and Society)	Good point. Because they are or could be better together than apart.
90	7	5	46	5	51	An assessment should not be written in the form of questions unless it goes on to answer them which is not clear here. Suggest rewriting. (Stocker, Thomas, IPCC WGI TSU)	Using questions to introduce the text is a rhetorical devise to engage the reader. The questions are answered in the following text.
91	7	6	4	6	5	Statement on drought and use of "likely" must reference the relevant section of Chapter 3 -- rephrase to ensure consistency with the wording used in Table 3.1 and lines 42-48 of page 63, chapter 3. (Stocker, Thomas, IPCC WGI TSU)	OK amended accordingly
92	7	6	6	6	7	This sentence on tropical cyclones should be reworded to better reflect the Chapter 3 assessment - something like: "Similarly, in some ocean basins, the intensity of the largest tropical cyclones is projected to increase, with impacts further exacerbated by mean sea level rise (see Chapter 3)". (Stocker, Thomas, IPCC WGI TSU)	OK Ammended accordingly
93	7	6	9	6	36	Really these are not overarching questions in the same sense as others in the section. Rather they are very important methodological and content based aspects that should be grouped in an introduction and definition of chapter content and method. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	Noted. And changed
94	7	6	12	6	13	The first caveat is a very large exception, that greatly limites the relevance, if not seriously compimises, the value of the analysis contained in Chapter 7. (Jeggle, Terry, University of Pittsburgh)	Agreed. Text substantially changed.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
95	7	6	27	6	36	This is an important caveat. But no where in the study as I see it are the consequences of this situation taken up on. That is to say, whereas here and in chapter 5 the different levels within a country are talked about, only is the community level dealt with explicitly in chapter 5. Nowhere is the city or metropolis level, economic regions, river basins, or whatever taken up on as DRM territories with their own types of needs and requirements, experience etc. This is a notorious gap as neither community or local in the sense of municipality, or national in the sense of an overriding level, can grapple with the DRM and ACC problems and experiences in other jurisdictions such as river basins, groupings of municipalities, economic regions, etc etc (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	Agreed. We cannot cover this in 7 due to space limitations and hope it will be in 6.
96	7	6	27	6	36	Be explicit about transnational regional governance arrangements like NAFTA, EU, etc. that shape disaster and climate risk. And influence of key international institutions shaping investment in public infrastructure, particularly in so-called developing countries. (Glavovic, Bruce, Massey University)	Sorry but this is a missing part of our chapter due to space limitations. We acknowledge the gaps in the text.
97	7	6	41	7	3	As commented above this is really not about elements of management but rather the content of the chapter. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	OK agreed.
98	7	6	44	6	46	A random example - there are many, many others, of statements that would benefit from the inclusion of supporting literature. (Lemmen, Donald Stanley, Natural Resources Canada)	We have expanded the literature used considerably.
99	7	6	46	0	0	The discussion of the UNFCCC moving the debate increasingly in the direction of international law also points to some needed reflection on the international community's record of using responsibilities and obligations in other areas where conventions and other instruments are promoted by and then managed by sovereign states, often without substantially changing the underlying causes or outcomes of their development choices. (Bender, Stephen Bender, Organization of American States (retired))	We would love to be able to do some more writing on comparative experience in other areas - no space and not our topic.
100	7	6	50	7	3	This paragraph omits reference to sections 7.5 and 7.6. (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	Changes made.
101	7	6	50	7	3	This is confusing. Given the foregoing caveats, do the issues referred to in this paragraph also relate only to the governmental aspects of drm ? If so, the discussion greatly underestimates the elements which contribute to the subjects. (Jeggle, Terry, University of Pittsburgh)	Yes we have a heavy emphasis on governments its true. This was a cLA choice influenced by the outline approved by the plenary.
102	7	6	51	6	51	Not sure what CAA is? Please clarify. (Stocker, Thomas, IPCC WGI TSU)	Its CCA
103	7	7	6	7	50	These three considerations although very important dont seem to fit here-some are generic and are relevant to the whole study and others are vaguely important to the international level. Maybe best to advance section 7.2 and then integrate these aspects, where pertinent, after, or in it. They certainly dont seem to fill the role of responding to the section title of International Level of Risk Management. One way or another it would seem necessary before going into other details to have right up front a definition of the international level and of the types of influence and participation it can or does have in DRM and ACC. This is not done I think, as I read the text. Defining the international level is not so difficult but defining the role and function in DRM and ACC is not so easy. The role as facilitator of lower level processes--national and local etc- and the contrasting role as doer of things is critical to point out. The role as provider of integration and as financier, arbitrator etc are all very different. Seems to me that at the very beginning we have to define international and the different roles and functions that can be identified as regards the topics. This is insinuated along the way but not made explicit from the beginning. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	The problem of defining where international starts and stops are very difficult. We could write a book about it. We have tried to clarify..
104	7	7	8	7	19	Another potential to risk reduction at the international level is limit practices that could have a positive effect inbound, but negative transnationally. (Bosello, Francesco, Fondazione Eni Enrico Mattei, Milan University \)	We have tried to recognize this more directly.
105	7	7	8	7	8	Please add - "Although climate extremes MOSTLY have a negative effect..." (Stocker, Thomas, IPCC WGI TSU)	OK
106	7	7	12	7	14	This statement relating to reducing greenhouse gases of course only applies to those climate extremes for which an increasing trend has been detected, and the role of anthropogenic warming attributed to this trend. This is not the case for all climate extremes assessed in chapter 3, eg, Winds, Monsoons, and tropical cyclones (see Table 3.1 of chapter 3). A new sentence or rewording of the existing sentence is needed to address this important caveat. (Stocker, Thomas, IPCC WGI TSU)	OK
107	7	7	22	7	38	The point that DRR and CCA are components of DRM could be probably be more made more lucidly. Indeed, one could argue that CCA could properly be a subset of DRR, except that the latter encompasses adaptation to/mitigation of some highly localized hazards, while CCA is global in scope varied in its nature across biospheric space. (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	YES, some want to include DRR in CCA and some put it the other way round! This has been reported.
108	7	7	22	7	38	Most of this information is from Chp 1; the reader should be referred to the appropriate section there. In addition, the text does not really address the heading. (IPCC WGII TSU)	Substantially deleted.
109	7	7	24	7	25	The IPCC definition presented here is of "climate adaptation" not simply of "adaptation". Insert "climate" before "adaptation". (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	OK
110	7	7	25	7	25	Provide more up to date reference, eg IPCC AR4 (Stocker, Thomas, IPCC WGI TSU)	OK
111	7	7	29	7	30	This is an example of interpretation of negotiated language in a way that not everyone would agree with. It is stated that "the need for DRM to be a key component in the ongoing UNFCCC climate negotiations as recognized in the Bali Action Plan. This is not really an accurate description of the BAP - which is quoted correctly in section 7.5.1. It would be more accurate to state that the BAP identifies DRM as one of many areas to be considered in the negotiation of a future international climate change agreement. (Lemmen, Donald Stanley, Natural Resources Canada)	Noted.
112	7	7	36	7	38	This sentence makes no sense. Some words must be missing. (Jeggle, Terry, University of Pittsburgh)	OK

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
113	7	7	41	7	50	In addition to the human-induced climate change jeopardising fundamental interests of individuals in their life and livelihoods, note should be made development models in varying combinations of forms of government and economic and social development policies continually put some interests of individuals in jeopardy while benefitting others in regards to exposure to natural hazards (including climate change). Development policies, mechanisms and tools in the public and private sectors rarely, if ever, provides a win-win situation for all of society. (Bender, Stephen Bender, Organization of American States (retired))	Agreed and have reflected in the new text..
114	7	7	43	7	50	Please present evidence and references to support the general statements in this paragraph. (Stocker, Thomas, IPCC WGI TSU)	Text deleted.
115	7	7	48	7	49	Such limitations again seriously constrain the utility of the Chapter, and more fundamentally provoke a question as to just what the purpose of Chapter 7 seeks to be ? At the very least perhaps the Chapter's title should be changed to reflect its more specifically focused range of enquiry and comment ? (Jeggle, Terrv, University of Pittsburgh)	We are stuck with the title - not our choice. But we did have to fall within strict space limits.
116	7	8	0	14	0	please elaborate on which principles presented in section 7.2 apply best to the implementation of CCA and DRR measures and why (Ammann, Walter J., Global Risk Forum GRF Davos)	We think all of them apply and are not sure we can generalise about which are best - it depends on circumstances.
117	7	8	1	0	0	Here facts depend on literature and resolutions; I wonder whether it is lacking public participation. (Yasseen, Adel, Ain Shams University - Institute of Environmental Research and Studies)	Agree it is largely lacking - space.
118	7	8	1	12	26	I think this section could be shortened considerably - particularly 7.2.1 -7.2.4 which are all relevant but the detail provided is not necessary to the goal of the chapter. I wonder if these might be considered "Principles" that could be listed and then expanded, each in a single paragraph. This seems a place to save space and this chapter can't possibly cover all aspects - it is sufficient to identify key references and leave the reader to pursue if they wish. (Lemmen, Donald Stanley, Natural Resources Canada)	Shortened to 2300 words
119	7	8	32	8	45	Another case of a regional level agreement is the Central American Regional Disaster Reduction Plan IN OPERATION SINCE 2006 AND ALSO, MORE RECENTLY, THE Central American Policy for Integral Disaster Risk Management approved by CA Presidents in June 2010. This policy is important because it also encloses a significant debate on terminology. Thus governments in the end refused to talk of Integrated DRM and went for Integral DRM as a term. Integrated would have gone further than ideas on national sovereignty would allow and this lack of integration has always been a source of frustration as regards trans border river basin management for example. Central American integration can only go so far due to overriding nationalisms that in the case of Europe may have been overcome to a great extent due to the economic imperative, but in CA not so. This has enormous implications for DRM and ACC under international promotion or support. The Andean Community also has a regional disaster risk reduction plan that could be mentioned and analysed--this was reformulated after its publication in 2004 to adjust its structure to take into account considerations in the Hyogo Framework. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	Have added reference to the Central American Policy for Integral Disaster RM. I contacted Allan to ask if he has a reference to the notion that "integral" was interpreted as less restrictive on national sovereignty. Still awaiting the source.
120	7	9	1	9	18	This deals with solidarity as regards disaster response, but the other solidarity is as regards promotion of development, reduction of poverty, adaptation to CC etc etc. should this not be part of this introduction to the solidarity subsections that follow? (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	Have added following sentence: Solidarity can take the form of ex ante interventions to reduce vulnerability and poverty, as well as ex post disaster response and assistance.
121	7	9	18	9	18	An example would be quite helpful. (IPCC WGII TSU)	Have added following: Examples include Johnsons and Johnson's provision of relief to disaster victims and Monsanto's efforts to teach impoverished farmers techniques for growing crops in periods of drought (Dunfee and Hess 2000).
122	7	9	24	9	25	Reference is to IPCC (2001) -- update to the more recent 2007 assessment. (Stocker, Thomas, IPCC WGI TSU)	Misplaced comment
123	7	9	38	9	38	Check for consistency with what Chapter 3 of SREX has to say about the increasing frequency, magnitude and spatial coverage; is it all climate extremes or some? If some then say so (Stocker, Thomas, IPCC WGI TSU)	Have reworded to: Increasing frequency, magnitude and spatial coverage of some climate extremes (see Chapter 3) mean losses....
124	7	10	41	10	43	This debate is fundamental but the statement that climate change risk is different to previous risk is erroneous in many senses and perhaps reflects a physicalist view of risk and its causes. Of course previous types of risk, from that associated with natural events through socio natural and technological events, have been "imposed by others" in many, many cases if not the vast majority. If we want to think it is the physical event that determines risk then we can carry on using such thinking. But we all know risk is socially constructed and that private decisions and processes lead to many living at risk against their will. Exposure and vulnerability are many times the result of others decisions or pervasive processes of social exclusion. So here in mentioning this line of literature we should also combat its conclusions with social construction arguments as regards previous forms of risk, if such a notion is sustainable in reality. So the rights argument can be extended to suggest that individuals and collectivities have the right to be protected from risk and disaster imposed by others through the processes that lead to social exclusion, marginality, exposure and vulnerability. This is what the new Constitution of Ecuador says for example. Risk is many times constructed privately and then suffered collectively and this is not only with climate change but also in previous "risk" contexts and will be so in the future with climate change. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	Have deleted any mention that adaptation to CC is different to other types of risks.
125	7	10	52	11	2	It is very difficult to segregate the causes of a natural disaster whether it was due to climate variability, climate change or vulnerability. Therefore, the argument can not be supported in principles for responsibilities. (Tokar, Ayse Sezin, U.S. Agency for International Development)	Have added: This argument applies to climate change in general including incremental change, and can be taken to apply to climate related disasters only if there is evidence or reason to believe that the disaster would not have occurred or would have been less severe in the absence of climate change (see Section 3.3).

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
126	7	11	2	11	2	Please note that under the new chapter 3 structure this should be "see Section 3.2.2". (Stocker, Thomas, IPCC WGI TSU)	Have changed
127	7	11	7	11	21	Refer to Chapters 3 & 4 of SREX and check for consistency (Stocker, Thomas, IPCC WGI TSU)	Have deleted wording on which this comment was based
128	7	11	30	11	32	There are many examples of how action of one country affects the risk or natural hazards of another, especially in flood issues in transboundary river basins. Examples include 2000 Mozambique floods (exacerbation of flood situations due to management of water resources at upstream), 1998 Bangladesh floods (similar to Mozambique floods). These examples will strengthen the argument of international cooperation. (Tokar, Ayse Sezin, U.S. Agency for International Development)	Have added sentence: Moreover, actions in one country can have effects on the risks of another, for example, clearing forests in an upstream riparian country can increase flood risks downstream.
129	7	11	37	11	50	Norwegian Refugee Council (NRC) published a report on natural disaster displacement and climate change indicating the dimension of climate-induced displacement, focusing specifically on sudden-onset events. The NRC document may strengthen discussions on displacement and extreme events (Monitoring Disaster Displacement in the context of climate change, Norwegian Refugee Council, 2008). (Tokar, Ayse Sezin, U.S. Agency for International Development)	Have made reference to this report with following: Turning specifically to displaced persons, a recent UN report estimated that over 20 million people were displaced by sudden-onset climate-related disasters in 2008 compared to 4.6 million newly displaced because of conflict (Norwegian Refugee Council and Internal Displacement Monitoring Center, 2009).
130	7	11	37	11	50	For more on evidence on the extent of current and future disaster- and climate-change induced migration and displacement (note comment 1 on terms migration and displacement), see OCHA and IDMC/NRC, 2009, Monitoring Disaster Displacement in the Context of Climate Change, available at http://www.internal-displacement.org/8025708F004BE3B1/(httpInfoFiles)/12E8C7224C2A6A9EC125763900315AD4/\$file/monitoring-disaster-displacement.pdf OCHA and the Internal Displacement Monitoring Centre of NRC (IDMC) carried out a study to start addressing the question of how many people are displaced. More than 20 million people were displaced due to climate-related sudden-onset disasters in 2008 alone. It may also be worth noting somewhere in this chapter that there seems to be agreement that most of the migration and displacement at least in the near future is likely to be internal in countries. See e.g. the report Kolmannskog, Future Floods of Refugees, NRC, April 2008, available at http://www.nrc.no/arch/_img/9268480.pdf ; peer-reviewed article Kolmannskog, "Climates of displacement", Nordic Journal of Human Rights, 26(4), pp 302-320, 2008, as well as submissions from humanitarian agencies to UNFCCC in particular litra a in comment 1. (Kolmannskog, Vikram, Norwegian Refugee Council)	see above
131	7	11	42	11	42	"...urbanization,.. " Please explain in which context. (Yasseen, Adel, Ain Shams University - Institute of Environmental Research and Studies)	Deleted "urbanization"
132	7	12	1	12	26	This subsection is entitled "Economic efficiency". I think the "efficiency" is used in terms cooperation facilitating the sharing of data for DRR and risk (insurance/re-insurance). But this message is not explicitly projected by the write-up. (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	I hope I have now made clear that efficiency goes beyond data sharing, although this is an important aspect.
133	7	12	3	12	13	Most of this information is repeated elsewhere in the chapter; combine with 7.2.2.2. (IPCC WGII TSU)	Decided to keep the section on efficiency (it is in the outline), but have reduced redundancy.
134	7	12	24	12	26	The discussion of risk pooling, insurance and reinsurance here and elsewhere should include the mention of whose risk and what type of risk (financial, economic, physical) is being addressed, at whose cost and whose benefit. This comment is applicable to section 7.4.5 also. (Bender, Stephen Bender, Organization of American States (retired))	Added sentence: Insurance pools generate diversification benefits that are reflected in reduced insurance premiums (see Section 7.4), which benefit individuals, development agencies, governments and others paying the upfront costs for catastrophic risk coverage.
135	7	12	29	14	38	Again there may be efficiencies here in limiting the text to an introduction of the key areas (international conventions, Customary law and non-binding instruments) and consolidating the text in the logical subsequent sections (7.4.1, 7.3.2) (Lemmen, Donald Stanley, Natural Resources Canada)	Generally there seem to be a series of suggestions to shorten and combine the sections on int law, and another series (normally from specialists in a particular area of law, namely refugee/IDP specialists..) suggesting that certain areas of international law deserve more attention. As immediately below, referenes to law on refugees/IDPs might be enhanced -- see next comment. It is difficult to comment suggestions on restructuring and combining text- that decision will be made among Lead Authors.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
136	7	12	29	14	38	<p>In the following is a list of peer-reviewed publications on climate change, migration/displacement and international law (both how it currently applies and possibilities in this context): 1) Kolmannskog, "The point of no return", Refugee Watch, Vol 34, December 2009 pp. 27-42. Abstract: This paper focuses on cross-border displacement and protection possibilities within existing instruments and mechanisms. While new legal and governance solutions may be needed, developing these will take time and it is also important to look at how existing international law already applies. A main contribution of this article is the clarification that some of the displaced should in deed be considered refugees and a proposal that considerations relating to the possibility, permissibility and reasonableness of return may provide a starting point to strengthen or even expand existing instruments and mechanisms to address the cross-border protection gap. 2) On the UNFCCC and migration/displacement reference in negotiation draft: Kolmannskog, "Towards a humanitarian climate change", Forced Migration Review 33, September 2009, available at http://www.fmreview.org/FMRpdfs/FMR33/72.pdf 3) Kolmannskog and Myrstad, European Journal of Migration and Law 11 (2009) 313–326, (post-refereed, pre-print version), available at http://www.nrc.no/arch/_img/9429378.pdf Abstract: This article looks at protection possibilities within the EU framework and national European legislations. Environmental displacement can arguably trigger temporary protection according to the EU Temporary Protection Directive. There may also be environmentally displaced persons who require longer-term or permanent protection. Drawing on the EU Qualification Directive and case-law from the European Court of Human Rights, one can argue that subsidiary protection should be granted in certain cases of extreme natural disaster or degradation. In less extreme cases, humanitarian asylum could be granted. Human rights principles such as non-refoulement could also be used to extend at least basic protection. In addition, legal labour migration could supply a work force, assist distressed countries and enhance protection of the individual. A strategy to meet the challenge of environmental displacement must also include climate change mitigation and external measures such as adaptation. Most of the displaced persons in the world today and in the near future do not arrive at the EU borders. 4) Kolmannskog, "Climates of displacement", Nordic Journal of Human Rights, 26(4), pp 302-320, 2008. Abstract: Climate change and impacts on the environment must be taken seriously as one of several causes of forced migration. One possible approach to the issue is that adopted in the case of the Guiding Principles on Internal Displacement, that is, to create a synthesis (and analogy) of existing international law in the form of principles. In any case, it would take a long time for new international instruments to be developed and come into force. Meanwhile, protection needs must also be addressed. This article attempts to show that investigating existing protection possibilities could prove useful and that there are several benefits to a Guiding Principles approach. Many of the forced migrants can probably be included in existing categories of protected persons, but we may need to increase their visibility and recognition within the categories. There is an urgent need to strengthen and develop existing protection mechanisms, particularly that of internally displaced persons. Human rights principles such as non-refoulement could also be used to extend at least basic protection. The human rights approach differs from general forced migration law by focusing on needs rather than cause. Rather than getting caught in the eternal debate about how forced or voluntary movement is, one could in the context of climate change and displacement focus more on the possibility and reasonability of return. Finally, arbitrary displacement is in itself a breach of law, and we need a broad approach to climate change adaptation, including strengthening and realising human rights. 5) Kolmannskog, "Dignity in disasters and displacement – exploring law, policy and practice on internal displacement, relocation and return in the context of climate change" Paper presented at the Global Environmental Change and Human Security Synthesis Conference, 22-24 June, 2009, University of Oslo, Oslo, Norway, available at http://www.nrc.no/arch/_img/9429376.doc ; and in the report Kolmannskog, Climate Changed: People Displaced, NRC, December 2009, available at http://www.nrc.no/arch/_img/9448674.pdf) Abstract: Climate change through increase in frequency and severity, as well as changes of timing and locations, of disasters, can force people to move. It is likely that many remain within the borders of their country of origin. This paper is first and foremost concerned with internal displacement and the challenges of evacuations, relocations and the need to find durable solutions for those who cannot return. Human dignity and the 1998 Guiding Principles on Internal Displacement may be useful in addressing these challenges and guiding law and policy. Some important concepts that must guide measures relating to relocations and return are participation and non-discrimination. States should review policies and laws to ensure that a rights approach is taken when addressing climate change, disasters and displacement. 6) Kolmannskog, "Climate change, disaster, displacement and migration- initial evidence from Africa," Research Paper 180, New Issues in Refugee Research,</p>	Noted with thanks
136.2	7	12	29	14	38	<p>Displacement, that is, to create a synthesis (and analogy) of existing international law in the form of principles. In any case, it would take a long time for new international instruments to be developed and come into force. Meanwhile, protection needs must also be addressed. This article attempts to show that investigating existing protection possibilities could prove useful and that there are several benefits to a Guiding Principles approach. Many of the forced migrants can probably be included in existing categories of protected persons, but we may need to increase their visibility and recognition within the categories. There is an urgent need to strengthen and develop existing protection mechanisms, particularly that of internally displaced persons. Human rights principles such as non-refoulement could also be used to extend at least basic protection. The human rights approach differs from general forced migration law by focusing on needs rather than cause. Rather than getting caught in the eternal debate about how forced or voluntary movement is, one could in the context of climate change and displacement focus more on the possibility and reasonability of return. Finally, arbitrary displacement is in itself a breach of law, and we need a broad approach to climate change adaptation, including strengthening and realising human rights. 5) Kolmannskog, "Dignity in disasters and displacement – exploring law, policy and practice on internal displacement, relocation and return in the context of climate change" Paper presented at the Global Environmental Change and Human Security Synthesis Conference, 22-24 June, 2009, University of Oslo, Oslo, Norway, available at http://www.nrc.no/arch/_img/9429376.doc ; and in the report Kolmannskog, Climate Changed: People Displaced, NRC, December 2009, available at http://www.nrc.no/arch/_img/9448674.pdf) Abstract: Climate change through increase in frequency and severity, as well as changes of timing and locations, of disasters, can force people to move. It is likely that many remain within the borders of their country of origin. This paper is first and foremost concerned with internal displacement and the challenges of evacuations, relocations and the need to find durable solutions for those who cannot return. Human dignity and the 1998 Guiding Principles on Internal Displacement may be useful in addressing these challenges and guiding law and policy. Some important concepts that must guide measures relating to relocations and return are participation and non-discrimination. States should review policies and laws to ensure that a rights approach is taken when addressing climate change, disasters and displacement. 6) Kolmannskog, "Climate change, disaster, displacement and migration- initial evidence from Africa," Research Paper 180, New Issues in Refugee Research,</p>	

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136.3	7	12	29	14	38	UNHCR, December 2009, available at http://www.unhcr.org/4b18e3599.html Abstract: Certain sudden-onset disasters, slow-onset disasters and conflicts can be drivers of migration and displacement in the context of climate change. So far there has been little research looking into these links and protection and law in conflict and post-conflict countries in the South. This article investigates these links as well as protection challenges and responses in Somalia and Burundi. While findings obviously differ in the two cases, there are also several similarities. Both cases illustrate how complex the dynamics of a disaster can be. Global climate change and local environmental degradation are only two of many factors in the droughts. The same goes for conflict. Other factors can play a more crucial role than the environmental when it comes to increasing the risk of violent conflict. The dynamics of human mobility are also very complex. While some people may be forced to move, others are forced to settle or do not have the resources to move. The particular protection needs of all those affected and those displaced need to be further researched so responses can be tailor-made. The two case studies indicate that some of the people who move, may qualify as internally displaced persons or refugees. The facilitation of other forms of legal cross-border migration may also be part of a solution to address protection needs. Both case studies indicate that formal, written law may play a rather limited role in a conflict and post-conflict situation, while humanitarian agencies are crucial and local law and practices may still play an important role. While countries that are already affected by conflict, droughts and floods are particularly vulnerable to further climate change, they may also have certain strengths that could be further researched, improved and supported. For an updated overview including much of the above articles and content see the following report which may be more easily available: Kolmannskog, Climate Changed: People Displaced, NRC, December 2009, available at http://www.nrc.no/arch/_img/9448674.pdf It may also be worth looking at a submission from the humanitarians to UNFCCC: Forced displacement in the context of climate change: Challenges for states under international law, Submission by UNHCR in cooperation with NRC, the RSG on the Human Rights of IDPs and UNU, 15 May 2009, available at http://unfccc.int/resource/docs/2009/smsn/igo/049.pdf (Kolmannskog, Vikram, Norwegian Refugee Council)	
137	7	13	2	13	4	A reference is needed. (IPCC WGII TSU)	I think that this is 'analysis' (what is criticised as lacking in parts of the chapter) and that the remainder of the paragraph (row 4 et seq) constitutes the 'reference' by providing referenced examples which support the statement for which the reviewer requests a reference.
138	7	13	18	0	0	Mention is made in several chapters about the impact of CC and other climate hazard non-extreme events. Is UNFCCC and thus this report only to deal with extreme events? (Bender, Stephen Bender, Organization of American States (retired))	Short answer is 'no'. (But this comment or question? It refers to other chapters too)
139	7	13	18	13	18	I would regard it as a very wide interpretation that the UNFCCC obligates to consider "international insurance schemes", as it is said in the text. Art. 4.8 of the Convention states that "In the implementation of the commitments in this Article, the Parties shall give full consideration to what actions are necessary under the Convention, including actions related to funding, insurance and the transfer of technology," but this does not imply automatically an international insurance scheme. This should be corrected, since exactly this issue, an international insurance mechanism, is at the moment one of the most controversial aspects of the UNFCCC negotiations on adaptation. This is not to say that there are not good arguments for such a mechanism, but it is not automatically implied by the Convention. Parties can also "comply" with the Convention by supporting e.g. micro-insurance activities, regional schemes outside the UNFCCC etc. (Harmeling, Sven, Germanwatch)	This is an important comment. It could be accommodated by removing 'international', but that makes reference to insurance irrelevant for the purposes of chpt 7 (7.2.5.2 should demonstrate how int. conventions address risk management at an int. level). Perhaps (line 19) '...and to consider insurance schemes, though at present it is debated as to whether this implies international insurance schemes' (to cite, I believe Koko Warner has written on this (perhaps just as a submission to UNFCCC), otherwise proceedings from the UNFCCC negotiations post June 2009). This comment also raises an issue with p.13 lines 15-16., which should read 'Few internationally negotiated treaties deal directly with managing risk _AT AN INTERNATIONAL LEVEL_ associated with climate extremes...!'
140	7	13	27	13	28	Another example of a misleading interpretation of negotiated text. Article 3.14 of the KP states "Among the issues to be considered shall be the establishment of funding, insurance and transfer of technology." Considering something is NOT the same as specifically calling for something to happen. Note that the language of the KP regarding insurance is very similar to that of the Convention (article 4.8, p.18, of this paper) in that they require Parties to "consider" insurance mechanisms. (Lemmen, Donald Stanley, Natural Resources Canada)	Correct. Replace last sentence (line 27) with 'At article 3.14, UNFCCC's Kyoto Protocol considers the establishment of insurance mechanisms.' (Note: unlike with the previous comment under the Convention, art. 3.14 is more clearly referring to insurance in an international context.)
141	7	13	35	13	37	What are some of the reasons? (IPCC WGII TSU)	I think it had to do import barriers but will have to re-read the article. Not sure the answer is relevant to chpt 7 but will provide the answer.
142	7	14	12	14	12	There is a duty to inform, but not necessarily to manage? (IPCC WGII TSU)	Is this a question or a statement? There is no duty to manage implied.
143	7	14	43	0	0	Section 7.3.1. Needs to be better focused on the relationship of HFA and climate change and much reduced in detail and length. (Stocker, Thomas, IPCC WGI TSU)	Agreed, this has been undertaken.
144	7	14	43	16	48	This is an extremely useful section and the start of the substantive elements of the chapter. The parallel structure of 7.3.1 and 7.3.2 is useful but I would like to see less detail in these sections (particularly regarding the FCCC) and an expansion of section 7.3.3 to better identify synergies. (Lemmen, Donald Stanley, Natural Resources Canada)	We have taken your comments on board and have attempted to identify synergies.
145	7	14	51	14	52	the correct title is the World Conference on Natural Disaster Reduction, held in Yokohama Japan in May 1994 (Jeggle, Terry, University of Pittsburgh)	We have corrected the title.
146	7	15	1	15	30	Most of this information is in Chps 1 and 2; the reader should be referred to the appropriate section there. (IPCC WGII TSU)	We have examined the earlier references and avoided duplication.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
147	7	15	13	15	13	While the Kobe conference was correctly a World Conference on Disaster Reduction, it was not a United Nations world conference, technically speaking. (Jeggle, Terry, University of Pittsburgh)	Thank you, corrected.
148	7	15	23	15	23	Here "...innovation and education..." are mentioned but not fulfilled later. And it is -in my vision- interconnected to item 52 here in this list. (Yasseen, Adel, Ain Shams University - Institute of Environmental Research and Studies)	This list is taken from the HFA, it does not represent a table of contents for this chapter. Unclear what is meant with item 52.
149	7	16	6	16	48	Are there no other reviews of HFA? These all sound unrealistically rosy; surely some things have not gone according to plan. (IPCC WGII TSU)	We have discussed the absence of peer reviewed assessments of HFA in new text.
150	7	16	8	16	48	A good part of this section is not on status but on the results of analysis of advances in DRR undertaken by ISDR or Global Network. This is all relevant for an analysis at the national level and so maybe chapter 6 should rob this part and incorporate it in its text. Then this section should limit itself maybe to status concerns of HFA not of DRR, as it does now. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	We looked at the content of chapter 6 and have made certain that our material in chapter 7 is focused on international frameworks.
151	7	16	11	16	11	technically, while intended objectives were cited in the HFA, there were no indicators defined in the document. Their inclusion or not was a major issue of debate during the drafting process, with the final decision being taken not to include specific indicators, while encouraging countries of the need to identify their own following guidelines to be suggested by the UN ISDR secretariat. Therefore the reference to indicators defined in the HFA should be revised for accuracy. (Jeggle, Terry, University of Pittsburgh)	We have revised this section, thank you for the comment.
152	7	16	19	16	19	Can we not expand the examples to go beyond micro insurance which is the most conservative of methods and the least structural of those available, as it involves risk transfer not risk reduction in the more direct sense? (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	Noted
153	7	16	22	16	26	As with the comment made in relation to page 5, this paragraph would be better based on the most recent assessment given here in SREX chapter 3, which reports observed and projected increases in the frequency and/or magnitude of many climate extremes BUT cautions that confidence in these past and future changes is highly variable. (Stocker, Thomas, IPCC WGI TSU)	Noted
154	7	16	33	16	34	References should be cited which provide evidence that EWS have been effective in saving lives and property - it is perhaps sufficient simply to add a cross reference to Case Study 9.19 here. (Stocker, Thomas, IPCC WGI TSU)	We have explained in the text the problems with establishing the precise extent to which a given DRR or CCA measure saves lives or protects property. Even in a disaster context such specific assessment is rarely possible
155	7	17	1	0	0	Section 7.3.2. Needs to be better focused and much reduced in detail and length. (Stocker, Thomas, IPCC WGI TSU)	We have followed this advice.
156	7	17	1	19	36	It would be useful to consolidate information on the FCCC in this section (note previous references to the BAP and KP). I am also not convinced all of the detail present in this section is needed (for example detailed deescription of Article 3). (Lemmen, Donald Stanley, Natural Resources Canada)	Agreed, and done.
157	7	17	5	18	13	One potentially key element of the FCCC that is not discussed here, but seems relevant to sections 7.4, 7.5 and 7.6, is the definition of climate change under the UNFCCC. The definition is different from that of the IPCC and that will not be recognized by some readers. Its relevance is that not all climate risks fall within the mandate of the UNFCCC, and potentially not even all climate change risks. Arguably, for something to be addressed under the FCCC there must be a clear attribution to anthropogenic climate change. This is clearly relevant when discussing mechanisms such as insurance or compensation to damages associated with extreme events under the FCCC. previously the IPCC has reported an inability to attribute specific events to climate change (as defined by IPCC). This is not likely a productive avenue for discussion, but it is a potential constraint that is unique to the FCCC and should probably be recognized here. There is some literature around this topic, including Verheyen, R. (2002): Adaptation to the impacts of anthropogenic climate change – the international legal framework; Review of European Community and International Environmental Law, v. 11, p. 129-143 and Pielke Jr., R.A. (2005): Misdefining "climate change": consequences for science and action; Environmental Science and Policy, v. 8, p. 548-561. (Lemmen, Donald Stanley, Natural Resources Canada)	We have considered this, but were unsure of its specific relevance to the discussion. However, we would be happy to reconsider.
158	7	17	13	17	48	Perhaps articles 2 and 3 can be safely deleted. (Bosello, Francesco, Fondazione Eni Enrico Mattei, Milan University \)	Done.
159	7	18	18	18	29	Although this IPCC report is perhaps not expected to fully reflect the current status of the UNFCCC negotiations which is also frequently changing, given the matter of the text, it would be very appropriate here to mention the de facto negotiating groups which have mostly expressed their needs with regard to adaptation, the Alliance of Small Island States (AOSIS) and the Least Developed Countries. If a sub-chapter is titled "Key actors in adaptation" the actual behaviour of country groups is more relevant than just the categorisation of country groups according to the Convention (Harmeling, Sven, Germanwatch)	Agree in principle with the importance of these Party groupings, but we felt it would be too political to refer to them. We have focused on institutions rather than countries as key actors.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
160	7	18	25	18	29	The summary of the issue of particularly vulnerable countries recognised under the Convention as presented here is not adequate, because it does not reflect the complexity of the debate. The Convention gives LDCs a certain priority status through Art. 4.9 with regard to funding and technology transfer. Art 4.8. in conjunction with preambular paragraph 18, includes a broader definition of countries particularly vulnerable to the adverse effects of climate change: small island countries, countries with low-lying coastal, arid and semi-arid areas or areas liable to floods, drought and desertification, and developing countries with fragile mountainous ecosystems. The problem is that this list has never been broken down to the country level, why each developing country can refer to the list and somehow claim it is also particularly vulnerable. The Bali Action Plan provided progress through concretisation, giving a relative priority for LDCs, Small Island Developing States and Countries in Africa which are prone to droughts, floodings and desertification. The way lines 26 and 27 are written are somewhat misleading in that regard, also because Tuvalu is usually subsumed in the group of small island countries, while low-lying coastal areas not only address islands but in particular delta regions. But even the prioritisation according to the Bali Action Plan is not formally accepted by all UNFCCC Parties, in particular since some also very vulnerable Latin American countries have realised they are not included under this definition. The consequence is that in the current adaptation negotiations and among the developing countries there is not yet an agreement on the prioritisation of specific countries (see http://unfccc.int/resource/docs/2010/awgla12/eng/14.pdf , para 5 option 1, which still is in the same form as in Copenhagen) (Harmeling, Sven, Germanwatch)	Agree. This text has been deleted.
161	7	18	31	18	44	Inclusion of IPCC WGII as a "Key Actor" in adaptation under the UNFCCC is strange and should be deleted. While IPCC is the authoritative source of scientific information to the UNFCCC, its scope of influence extends far greater. Inclusion of the GEF - which is the financial mechanism for the Convention, makes sense. Consider adding reference to the Nairobi Work program (referenced on p.40) as a mechanism that has been able to bring relevant organizations into the Convention process (several UNFCCC documents to cite) and at present represents the only "operational" link between the UNFCCC, UNISDR and a whole range of UN organizations and NGOs who have mandates related to both DRM and CAA. (Lemmen, Donald Stanley, Natural Resources Canada)	Agree, has been deleted.
162	7	18	49	18	49	the Global Environment Facility does not serve as the financial mechanism of the UNFCCC, but only as "an operating entity of the financial mechanism", according to Art. 21.3 of the Convention: "The Global Environment Facility of the United Nations Development Programme, the United Nations Environment Programme and the International Bank for Reconstruction and Development shall be the international entity entrusted with the operation of the financial mechanism referred to in Article 11 on an interim basis." This is important because there is at least one other entity officially recognised as an operating entity of the financial mechanism, which is the Adaptation Fund Board of the Adaptation Fund under the Kyoto Protocol. There may be even more operating entities in the future (current debate about the establishment of a new Fund under the Convention) (Harmeling, Sven, Germanwatch)	Agree, but text has not been changed! Next draft
163	7	19	3	19	3	When mentioning the World, Asia and African Development Banks maybe best to add Inter American as well and get rid of the IADB <u>separate mention (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))</u>	Agree, but text has not been changed! Next draft
164	7	19	8	0	0	Section 7.3.2.3: this sub-chapter provides a very incomplete presentation on the status of climate change adaptation under the UNFCCC. It lacks any reference to the real content that is currently subject to the negotiations, some of which is directly relevant to the overall issue of this IPCC report: e.g. the debate about an international mechanism to address loss and damage from adverse impacts, including extreme events; the role of regional centers to promote understanding and implementation of adaptation etc. There are almost no analyses of this current status of debate, why I refer to the one of which I was the lead author: Harmeling, S. et al., 2010: International Action on adaptation and climate change: what roads from Copenhagen to Cancun? Germanwatch and WWF report. http://www.germanwatch.org/klima/ad-cph-canc.pdf . Only summarising the two Funds Adaptation Fund and LDCF in a very rough form is not adequate to the role that adaptation now has in the negotiations. In particular on the Adaptation Fund there is much more that could be said about the actual status, but I doubt that is most relevant to this specific chapter here. Furthermore, the section lacks any mentioning and description of the Nairobi Work Programme on Impacts, Adaptation and Vulnerability, which is central to what the UNFCCC process is currently doing on extreme events. Given my personal insights into the UNFCCC process, I would be able to propose some more specific language to summarise the overall state of negotiations with particular relevance to the matter of extreme events, and thereby address the invitation for contributing authors expressed in the note to expert reviewers on page 1) of the chapter. (Harmeling, Sven, Germanwatch)	Agree, text has been completely revised.
165	7	19	8	0	36	This section on status of adaptation under the UNFCCC should in our view, also include relevant paragraphs from the Copenhagen Accord, e.g. on the financing of adaptation, both short and long term (30 bill USD 2010-12, 100 USD in 2020), and on the balance between adaptation and mitigation (even if this is included on page 27). It could further mention the different elements of the negotiating text, which are very relevant in this context. http://unfccc.int/resource/docs/2010/awgla12/eng/14.pdf . (Asphjell, Torgim, Climate and Pollution Agency (Norway))	The text of this section has been completely revised and updated following COP16 in Cancun.
166	7	19	8	19	36	This subsection should describe the status of the Parties views on risk reduction and management (established within the Bali Action Plan) and on the application of the Hyogo Framework (referred to in agreed language at COP-15. (Basher, Reid, Secretariat of the High-Level Taskforce on the Global Framework for Climate Services)	The text of this section has been completely revised and updated following COP16 in Cancun.
167	7	19	12	19	17	The part can be deleted an start immediately from Bali (Bosello, Francesco, Fondazione Eni Enrico Mattei, Milan University \)	Agree, text has been completely revised.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
168	7	19	16	19	16	Currently, there are 192 Parties (191 States and 1 regional economic integration organization, the EU) to the Kyoto Protocol to the UNFCCC, see http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php (Harmeling, Sven, Germanwatch)	In fact, there are now 194 Parties. This has been corrected.
169	7	19	16	19	17	This statement, while factually correct, could be deemed judgemental and isolating of the US. Mention should be made of the (small) number of countries that assume new commitments under the KP. This is of course the source of the current multi-track negotiation process, and why some view the Copenhagen Accord as a progressive step. (Lemmen, Donald Stanley, Natural Resources Canada)	Agree, and deleted as part of a complete rewrite of this section.
170	7	19	21	19	21	Delete; this will be published late 2011, long after Cancun. (IPCC WGII TSU)	Agree.
171	7	19	27	19	27	while there is more substantial information to the Adaptation Fund available, this comment only seeks to correct that the Adaptation Fund Board currently meets four times a year and not biannually; key additional information could include the projected amount of funds available, the specific role of extreme events etc. (Harmeling, Sven, Germanwatch)	It looks like we've lost a discussion of the Adaptation Fund! Next draft
172	7	19	32	19	32	on page 18, line 28, it was said that there are currently 49 LDCs, while on page 19, line 32 50 LDCs are mentioned; the official UN LDC list contains 49 LDCs: http://www.unohrrls.org/en/ldc/related/62/ (Harmeling, Sven, Germanwatch)	This text has been deleted, but to be clear, the number of LDCs is not constant over time. There are currently 48 LDCs in total (http://www.unohrrls.org/en/ldc/related/62/); the Maldives recently graduated. Until 2010 all but one LDC were Party to the UNFCCC. With the accession of Somalia, all LDCs are now Party.
173	7	19	32	19	32	Earlier said there are 49 LDCs. (IPCC WGII TSU)	See above.
174	7	19	39	0	0	Section 7.3.3. Needs to be better focused on the relationship to climate change and reduced in detail and length. (Stocker, Thomas, IPCC WGI TSU)	Agree and done.
175	7	20	1	20	4	There should be a brief paragraph discussing/presenting Table 7-2. The Table could also include a few more examples of benefits for DRR and CCA from attaining MDGs. For example: reduced child mortality, improved maternal health, combated HIV/AIDS and malaria, enhanced global partnerships for development would all release resources for DRR and CCA projects. Similarly, attainment of environmental sustainability would be expected to enhance carbon sinks and combat other hazards such as desertification. (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	Table has been deleted.
176	7	20	10	0	0	I would recommend you refer to regional instrument such as strategies that are agreed at intergovernmental level. These exist for disaster risk reduction, in Africa for example. ASEAN has a regional intergovernmental agreement on transboundary fire management. Transboundary water management agreements exist, e.g. for the Nile basin. (Basher, Reid, Secretariat of the High-Level Taskforce on the Global Framework for Climate Services)	Noted
177	7	20	10	0	0	I would avoid having subsubsection descriptions of individual actors, as there is no end to the organisations that would expect to be described. Better to think in terms of types of organisation as "tools", perhaps such as, UN entities, regional and subregional organisations, NGOs, maybe, industry associations, and describe their generic roles and what they actually do, not what they aspire to do. (Basher, Reid, Secretariat of the High-Level Taskforce on the Global Framework for Climate Services)	We have taken the advice and reduced the number of actors to the minimum
178	7	20	17	20	19	This sentence includes both a likelihood term "...are likely to have..." and makes a general conclusion "influence on vulnerability to extreme events and the gradual effects of climate change" but lacks specificity and the necessary references to support such a statement or conclusion. (Stocker, Thomas, IPCC WGI TSU)	Para has been deleted.
179	7	20	27	20	50	Table 7-3 is extremely useful, however the accompanying text that describes the MDG is not and could be shortened / deleted (note duplication in listed the goals in the text and the first column of Table 7-3 (Lemmen, Donald Stanley, Natural Resources Canada)	Table 7.1 is now omitted
180	7	20	33	20	43	This needs to more clearly differentiate between the goals and targets. (IPCC WGII TSU)	Table 7.1 is now omitted
181	7	20	48	20	50	Should be a third. Failure to achieve or advance in the achievement of such goals will in general mean more disaster risk and more disaster in the future. That is to say disasters push back development many times but also lack of development creates disaster risk. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	Table 7.1 is now omitted
182	7	20	53	20	53	The table also should consider how enhancing DRR and CCA would increase achievements of the MDGs. (IPCC WGII TSU)	Table 7.1 is now omitted
183	7	21	1	23	18	Highly descriptive text that could be shortened significantly or deleted. There are no references for subsections 7.3.4.4, through 7.3.4.7 (Lemmen, Donald Stanley, Natural Resources Canada)	Text has been greatly reduced, focussing more closely on types of actions, and actors, that work explicitly at the interface between CCA and DRR, with appropriate referencing.
184	7	21	34	21	34	And this will help CCA by (IPCC WGII TSU)	Specific text now deleted, IHR referenced only very briefly.
185	7	21	39	22	3	What is the status of the use or adaptation of ISO standards implemented in developing countries? (Tokar, Ayse Sezin, U.S. Agency for International Development)	Specific text now deleted, ISO referenced only very briefly.
186	7	21	50	21	52	Indeed, the ISO14000 series if widely promoted could help in CCA and DRR. ISO14001 for instance covers environmental protection within the private and public sectors. (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	Specific text now deleted, ISO referenced only very briefly.
187	7	22	2	22	3	How are these used? (IPCC WGII TSU)	Specific text now deleted, ISO referenced only very briefly.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
188	7	22	8	22	18	WMO's programs in Commission of Hydrology and many other divisions emphasize DRR and CCA and illustrate necessity and benefit of international cooperation and integration across the scales. Some of the WMO examples include integrated flood management program, severe weather forecasting activities, global flash flood guidance initiative, and climate services framework. These programs such as activities in flood and weather forecasting coordinates across various scales such as use global information to issue warnings at national levels. The products at national level then disseminated to local governments and communities for life saving warnings to management of resources. (Tokar, Ayse Sezin, U.S. Agency for International Development)	The text now more specifically mentions the the relevant WMO programmes with CCA and DRR as entry points. In response to requests from several reviewers, there is additional information on the new global framework on climate services.
189	7	22	11	22	11	Please define NMHSs (IPCC WGII TSU)	Done (see SOD section 7.3.3.2)
190	7	22	30	22	44	This list seems irrelevant or at least superfluous to the subject, so I suggest it be deleted.. (Jeggle, Terry, University of Pittsburgh)	Whole section has completely re-written
191	7	23	1	23	18	This sub-subsection is linked to the ISDR/HFA subsection (7.3.1) and should therefore be moved to become 7.3.2. (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	The whole section 7.3 has been re-organized now.
192	7	23	49	23	54	Please note comment 1 on the terms migration and displacement. While most people who cross an international border will probably not qualify as refugees, some will. See comment 6 for papers. (Kolmannskog, Vikram, Norwegian Refugee Council)	Qualify the statement in line 51 '...Convention Relating to the Status of Refugees has been _largely_ rejected....
193	7	23	49	23	54	To say that refugee law as codified in the 1951 Convention relating to the Statue of Refugees has been rejected is imprecise. Although most will fall outside of the defintion and Convention and the Convention should not be reopened for an expansion of the definition of refugee, some people displaced across an international border, will in fact qualify as refugees, in particular when adopting a dynamic and contextual interpretation. Serious or systematic human rights violations are normally considered to amount to persecution. Experience shows that situations of both natural disasters and conflict are prone to human rights violations. The 1951 Convention as well as UNHCR's mandate, will as a minimum be applicable in situations where the victims of natural disasters flee because their government has consciously withheld or obstructed assistance in order to punish or marginalize them on one of the five grounds. (This has also been clarified by UNHCR, see UNHCR, Climate Change, Natural Disasters and Human Displacement: A UNHCR Perspective, 14 August 2009, available at: http://www.unhcr.org/refworld/docid/4a8e4f8b2.html) In addition, there are often several reasons why a person moves, and convention refugees may flee in the context of disasters while the well-founded fear of persecution exists independently (See papers in comment no 6, in particular "The point of no return" and on the last point also "Climate change, disasters and displacement - initial evidence from Africa"). (Kolmannskog, Vikram, Norwegian Refugee Council)	Noted with thanks
194	7	24	3	24	28	See comment 6 for more literature and ideas on possibilities in law, including how a dynamic and contextual application of refugee law and human rights law means some people are given protection in cross-border cases (particularly "The point of no return" and "Climates of Displacement"). There is also a suggestion to follow a Guiding Principle approach (See particularly "Climates of Displacement"). (Kolmannskog, Vikram, Norwegian Refugee Council)	Interesting - I had not thought of that. I will see what I can find and revert.
195	7	24	9	24	14	what role might (eventually new established) international courts play in this context? (Ammann, Walter J., Global Risk Forum GRF Davos)	CLA consult
196	7	24	31	0	0	This section will draw a great deal of interest but appears to be duplicative with eth final section of Chapter 4. (Lemmen, Donald Stanley, Natural Resources Canada)	The text on economic costing (FOD section 7.4.2) has sent to chapter-4 for inclusion.
197	7	24	31	25	32	This section could go in chapter 4 or elsewhere given the theme of costs is dealt with in other chapters and really is not exactly an international management affair even if the international level backs up the need for this. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	See response to comment # 196
198	7	24	33	25	32	The linkage between cost of climate change and managing risk at international scale needs to be made clear. Estimation of losses due tropical cyclone is fairly sketchy and does not provide a need for managing risk at international scale. The section can use a clear focus on highlighting the significant cost of climate-induced disasters versus funds needed for implementation of CCA and value of international approach. CRED-EMDAT may provide estimated cost for various hydromet disasters. (Tokar, Ayse Sezin, U.S. Agency for International Development)	See response to comment # 196
199	7	24	46	24	47	Some of this 'more advanced' literature should be cited here. (Stocker, Thomas, IPCC WGI TSU)	See response to comment # 196
200	7	24	48	24	50	Further, costs are often based on market impacts. (IPCC WGII TSU)	See response to comment # 196
201	7	25	3	25	3	Please cite individual chapters of IPCC reports, rather than the whole report - Chapter 3 and 4 of SREX should also be cited here. (Stocker, Thomas, IPCC WGI TSU)	See response to comment # 196
202	7	25	5	25	5	SREX Chapter 3, section 3.4.4 must be cited here, as the most recent assessment regarding tropical cyclones. (Stocker, Thomas, IPCC WGI TSU)	See response to comment # 196
203	7	25	8	25	9and also this is mostly due to heterogeneities that exist in the historical tropical cyclone observation record. (Stocker, Thomas, IPCC WGI TSU)	See response to comment # 196
204	7	25	15	25	16	Please reword based on the wording used in 3.4.4 of Chapter 3, ie, that climate change is expected to increase the frequency of the most intense storms in SOME ocean basins. (Stocker, Thomas, IPCC WGI TSU)	See response to comment # 196
205	7	25	19	25	32	Sub-subsections 7.4.2.3 and 7.4.2.4 do not add any value to the section and could be removed or vastly improved. (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	See response to comment # 196
206	7	25	29	25	30	Statements regarding climate change and any potential change in magnitude and/or frequency of extreme events must be consistent with Chapter 3; rephrase to include necessary specificity and qualifiers as provided in Chapter 3. (Stocker, Thomas, IPCC WGI TSU)	See response to comment # 196

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
207	7	25	35	25	50	This seems out of place; there was a discussion of the costs of impacts earlier. The two discussions should be combined. (IPCC WGII TSU)	Disagree. An assessment of the costs of extreme events belongs to a discussion on impacts (and has been moved to chapter 4). Finance is one way of promoting adaptation. Just because both have to do with money <i>doesn't mean they're closely related</i> .
208	7	25	35	26	53	This subsection's title includes "incentives", but these are virtually absent from the discussion. Yet incentives are critical in promoting CCA-related private-public as well as CBO/NGO-public partnerships. (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	Don't quite agree. The availability of international finance itself is an incentive for action. Perhaps the title should be changed?
209	7	25	35	27	9	This section places a very strong emphasis on financing under the UNFCCC and largely ignores other multilateral initiatives (e.g. WB PPCR) or, much more importantly, bilateral initiatives either explicitly related to CCA or ODA in which adaptation has been mainstreamed. There are constraints with all of these, but even with operationalization of the Copenhagen Green Fund, ODA represents a huge opportunity to reduce vulnerability in a manner that addresses both CCA and DRM goals without having to fit into one box or another. The Paris Declaration for Aid effectiveness is highly relevant here although it is currently discussed (p. 26, l. 28-38) only in the context of post-disaster humanitarian assistance. (Lemmen, Donald Stanley, Natural Resources Canada)	Agree. Unfortunately there is much less peer-reviewed literature on finance for DRR. In the next draft we will engage a contributing author to fill this gap.
210	7	26	16	0	0	following the criticism of the GEF, this would be an appropriate place to briefly refer to the Pilot Programme for Climate Resilience (PPCR) set up under the World Bank. The key justification here would be that the GEF section (lines 7 to 15) ends with the criticism on the emphasis on supporting projects. The PPCR has as a key objective to assist a number of selected countries (9 countries and 2 regional approaches, in total 18 countries) in developing broader strategies of climate resilience (see http://www.climateinvestmentfunds.org/cif/ppcr). While the legitimacy of the Fund has been subject to criticism, the function as such means exactly going beyond projects and developing ways to integrate adaptation into policies and planning. Furthermore, following this would be a good place to briefly outline key aspects of the Adaptation Fund under the Kyoto Protocol, since it provides a new innovative avenue with increased developing country ownership, in particular through the option of direct access which is possible for the first time in the history of climate finance (see analytic information on http://www.germanwatch.org/klima/af.htm) (Harmeling, Sven, Germanwatch)	Will do in next draft, when new peer-reviewed literature will be available.
211	7	26	51	0	0	Proposal for insertion after (GEF 2008): New institutional approaches, such as the Adaptation Fund with its direct access option which places larger responsibility for oversight and monitoring on domestic institutions, so-called National Implementing Entities, provide an opportunity to combine accountability and transparency with a greater developing country ownership, but also have to prove that they work (Craeynest et al., 2010). Reference already contained in the reference list (Harmeling, Sven, Germanwatch)	Agree, but this sentence has not been included. Next draft!
212	7	27	0	0	0	technology transfer is complex and does require capacity building – however it also requires a client focus as opposed to a developer focus – transfer that involves inappropriate technology – see O'Brien G. O'Keefe P. Rose J. (2007) Energy, Poverty and Governance, International Journal of Environmental Studies, Vol. 64, No. 5, October 2007, 607–618. Routledge. DOI: 10.1080/00207230600841385 (O'Brien, Geoff, Northumbria University)	Agree, but this one is for Ferenc!
213	7	27	1	27	1	Rather than 'concurrent' please attach a date to the financial crisis. (Stocker, Thomas, IPCC WGI TSU)	Agree, but this change has not been made. Next draft!
214	7	27	1	27	9	This is anecdotal; please present evidence and references to support the general statements in this paragraph. (Stocker, Thomas, IPCC WGI TSU)	Peer-reviewed literature will be available for next draft.
215	7	27	7	27	9	proposed textual change because of two reasons: first, there is a difference in the character between the 30 billion and the 100 billion for 2020, and second, it is unlikely that the new Fund (possibly established at COP16 in Cancun) will be called Copenhagen Green Climate Fund, and I think this information is not helpful here without saying a bit more about the Fund which is not possible today, so I would put the sentence like this: "which would be reflected in the following formulation: "In the Copenhagen Accord (COP 15, 2009), developed country leaders pledged USD 30 billion from public budgets for the period 2010-12, and to mobilise USD 100 billions annually by 2020 from a variety of sources to address the needs of the developing countries (UNFCCC 2009b). (Harmeling, Sven, Germanwatch)	Agree, but this change has not been made. Next draft!
216	7	27	12	31	39	This section uses both "adaptation technologies" and "technologies for adaptation". There are advantages to the latter term in that it effectively conveys that, in many cases, this represents new application of existing technologies or technologies not explicitly developed because of climate change impacts. Suggest consistent use in the same manner at the EGTT. (Lemmen, Donald Stanley, Natural Resources Canada)	OK - done.
217	7	27	16	28	18	Political will and governance have significant impact on implementing both DRR and CCA. Sustainability, operation and maintenance of technology can be challenging in many developing countries due to lack of resources, human capacity or cultural differences and needs to be addressed across the scales. (Tokar, Ayse Sezin, U.S. Agency for International Development)	OK - done.
218	7	27	47	27	48	If a comprehensive discussion is needed then it should be a part of the report rather than referring the reader elsewhere. (Stocker, Thomas, IPCC WGI TSU)	Kept the source of the list of factors, deleted comprehensive discussion.
219	7	27	48	27	48	Please do not use "see"; just give the reference. (IPCC WGII TSU)	OK - done.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
220	7	28	2	28	8	Downscaling climate change impacts to the level necessary to design structures proposed such as levees, groynes, or floodwalls can be challenging based on available information. Some of the structural measure may lead to mal-adaptation or unnecessary investment of scarce resources. Structural measures are localized solutions and there is a need for localized information rather than international level of management. The proposed section can be reworded to illustrate sharing lessons learned or international impact of local solutions such as problems or levees in transboundary rivers. In addition, environmental and hydrologic impacts of structural measures need to be highlighted. Technology transfer efforts for CCA and DRR needs to be closely integrated to sustainable development efforts since some of the activities such as land use management, development of infrastructure such as levees and capacity building activities have to be in line with development plans for sustainability of these measures. (Tokar, Ayse Sezin, U.S. Agency for International Development)	Good point. Main points included as new text..
221	7	28	33	28	33	How does one decide whether a model is appropriate? (IPCC WGII TSU)	Added: local experts
222	7	29	1	29	51	This section is more a review than an assessment. It can be condensed considerably and redundant material removed. For example, there should not be a summary of a UNFCCC meeting; key conclusions can be included if the conclusions can not be drawn from published literature. Another example is the mention of the World Bank screening tool. The questions are whether it is effective, how extensively it is used, etc. (IPCC WGII TSU)	OK, cut summary, increased assessment.
223	7	29	17	29	29	it sounds a bit weird to read who made a specific presentation at a UNFCCC workshop from 5 years ago. There has already been a thick publication by UNFCCC on financing technology transfer which is even referred to in line 45: see http://ttclear.unfccc.int/ttclear/pdf/Workshops/Canada/Montreal%20background%20paper-edited.pdf , this part from line 17 to 29 could likely be significantly shortened by just referring to key aspects of the UNFCCC paper (Harmeling, Sven, Germanwatch)	OK, cut summary in 17-29 and referred to key aspects of the UNFCCC paper.
224	7	29	17	29	29	A random example of 12 lines of text devoted to describing a single workshop where the one issue identified - intellectual property rights - is not dealt with in any depth despite its relevance. (Lemmen, Donald Stanley, Natural Resources Canada)	OK, shortened discussion.
225	7	29	28	29	35	in line 28 and 35: it is not appropriate to call the Adaptation Fund a GEF Fund, because the GEF is only providing Secretariat services to the Adaptation Fund Board, but is in total in a much weaker position than in the other Funds which are officially managed by the GEF (Harmeling, Sven, Germanwatch)	OK, corrected.
226	7	29	33	29	34	the information that the World Bank "is developing a screening tool", and then a reference from 2005, reads quite outdated (Harmeling, Sven, Germanwatch)	OK, updated and added a more recent reference.
227	7	30	1	31	39	Sub-section 7.4.4.3 should come before 7.4.4.2 so that the latter feeds well into 7.4.5 (Risk transfer, risk sharing) (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	OK. Reversed order.
228	7	30	24	30	34	This section needs a more balanced and nuanced presentation of early warning systems. A critical component of such systems is response. You might want to consider asking Linda Mearns or someone with similar experience to provide a summary of the usefulness of downscaled projections. (IPCC WGII TSU)	OK, extended; it is now more balanced and added downscaling.
229	7	30	26	30	28	While this statement regarding "the most essential components" may be correct with respect to the technical elements concerned, a stated, it is open to being misconstrued as implying that such technical elements of an early warning system are the "most essential components". Such a potential interpretation risks elevating technical applications in early warning at the risk of diminishing the communications practices involved (whether they are "technical" or not), as well as the fundamental social dimensions that are indeed crucial to effective early warning. Although there has been increased attention given to these social and communications aspects of early warning in recent years, and particularly following the failure of warning processes with respect to the Indian Ocean tsunami despite the existence of technical hardware, this paragraph may be revised to distinguish between the technical hardware and social dimensions that are both essential and critical components to successful early warning. Even though "local and regional communications systems" are referred to in the present text, they are expressed in the company and context of technological hardware rather than in terms of the human dimensions and social aspects of communication which equally need to be highlighted. (Jeggle, Terry, University of Pittsburgh)	OK, rephrased to avoid the possibility to misconstrue.
230	7	30	34	30	34	Add a reference to Section 3.2.3 of chapter 3 here, which deals with downscaling of regional climate models. (Stocker, Thomas, IPCC WGI TSU)	OK. Done.
231	7	30	36	30	43	A good example of application of space technology at international scales and early warning is the WMO-National Oceanic and Atmospheric Administration-USAID-Hydrologic Research Center initiative on global flash flood guidance. The system uses global data produced by global center, downscale the global information to regional products which are sent to National entities for further downscaling at national level and then disseminated to users and communities (WMO, Commission for basic systems management group, seventh session, Geneva, 2007 and WMO-EC 62nd Session, Geneva, June 2010). (Tokar, Ayse Sezin, U.S. Agency for International Development)	OK, included.
232	7	30	39	30	42	It may also be relevant here to note that there indeed are existing capabilities within some particularly exposed developing countries, and that countries such as India, Bangladesh, China, Philippines and probably others currently have well-developed remote-sensing capabilities of their own, or existing arrangements with other space agency suppliers. As stated, the text suggests that current abilities are pretty much the exclusive preserve of the "developed" countries alone. (Jeggle, Terry, University of Pittsburgh)	OK, noted.

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233	7	30	43	30	43	"ice hazard" -- please be more specific -- what extreme weather/climate event you are referring to? (Stocker, Thomas, IPCC WGII TSU)	Deleted, no space for expansions here.
234	7	30	45	30	45	It is much more than just timely delivery of information. (IPCC WGII TSU)	OK, changed.
235	7	30	50	30	50	Are you still referring to the Holdaway 2001 paper when you say "The author presents recent developments....". If so, it is hard to see how a 2001 paper can be cited in relation to 'recent developments' here in the rapidly advancing earth observation field. Please consult some more recent literature to support the discussion in this paragraph. (Stocker, Thomas, IPCC WGII TSU)	OK, checked but no more recent literature in this context.
236	7	30	50	30	54	This information needs to be assessed, not just summarized. (IPCC WGII TSU)	OK, assessed.
237	7	31	5	31	5	Should HIMAWARI not be WINDS? (Stocker, Thomas, IPCC WGII TSU)	OK, corrected.
238	7	31	9	31	10	This reminds me of an assessable intergovernmental tool, i.e the regional government-led technical process to systematically reference, validate and improve national action on a common problem. Examples include the tropical cyclone committees or panels for the main cyclone regions, and the regional seasonal climate outlook forums. Both are established and effective institutional policy instruments. Perhaps there are others for health, water, agriculture etc. (Basher, Reid, Secretariat of the High-Level Taskforce on the Global Framework for Climate Services)	Only distant relevance for TT, no space to include.
239	7	31	9	31	18	This paragraph does address some of the issues I raised in the previous comment No.85, so while the issue has not gone unnoticed, the discussion does seem rather split between locations. Perhaps the elements of the discussion can be somewhat better integrated. (Jeggle, Terry, University of Pittsburgh)	Combining/moving would destruct the logical flow of this section.
240	7	31	9	31	18	It is important to emphasize an integrated approach rather than specific technologies for Early warning systems (EWSs). EWSs should promote an integrated approach to link technology to population at risk. GIS/GPS are only tools can be used in EWS. The weakest part of most of the early warning system is lack of linkages of systems components. EWS should include components from collection of hydrometeorological data, forecasting on how the nature will response (e.g. weather or flood forecasting), communicating information (or warnings) to decision makers (sectoral users or communities) timely, disseminating information to population at risk and community actions to be prepared or lessen the impact of a potential hazard. If these components are not linked closely or if one is not in place, the goal of early warning will not be achieved. There are various examples of end-to-end early warning system. (Tokar, Ayse Sezin, U.S. Agency for International Development)	Good point, text added to emphasize integration.
241	7	31	12	31	13	No -- an early warning system also includes response. Please see previous comments on a more balanced perspective on early warning systems. (IPCC WGII TSU)	OK, revised to indicate that not the whole EW is meant, only the aspects involving TT.
242	7	31	20	31	33	This information needs to be assessed, not just summarized. (IPCC WGII TSU)	OK, assessed.
243	7	31	42	0	0	Section 7.4.5. overlaps with Chapters 5 & 6. The issues of overlap and redundancy among Chapters 5, 6, & 7 need to be discussed and solved in cross-chapter meetings. (Stocker, Thomas, IPCC WGII TSU)	I sent authors of Chapter 5 and 6 revised text to eliminate redundancies and harmonize
244	7	31	42	0	0	Similar information is discussed under Chapter 5 of the same report under Section 5.5.2.2, and Section 6.3.3.3 of Chapter 6. There is a need to harmonise information from Chapter 7 with these Sections/ Chapters. (ARJUNAPERMAL, SUBBIAH, ASIAN DISASTER PREPAREDNESS CENTER)	I sent authors of Chapter 5 and 6 revised text to eliminate redundancies and harmonize
245	7	31	42	31	49	Maybe wise to quickly reiterate the content and differences between sharing and transferring risk as many times they are used as synonyms (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	I distinguish as follows: Risk transfer (usually through formal means) and risk sharing (usually informal with no payment)
246	7	31	42	36	0	The whole issue of insurance, risk transfer and risk sharing etc is dealt with in various chapters with varying levels of overlap. Although internationally sponsored or international coverage schemes fit well in this chapter, this topic must be looked at on an interchapter basis to avoid duplication and see what in particular is to be developed in chapters on local, national and international interventions in CCA and DRM and also in chapters 1, 2, 4, 8 and 9 where the topic is mentioned and discussed at varying levels.. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	I sent authors of Chapter 5 and 6 revised text to eliminate redundancies and harmonize
247	7	31	42	36	44	The subsection 7.4.5. Risk Transfer, Risk Sharing is very well researched, comprehensive, and well-presented. As an informed survey that also provides very useful examples and suggestions for further consideration or application it should serve as a model for other sections of Chapter 7 that presently are more limited in their utility because of their largely discursive presentation of institutional or policy arrangements that can be found, or otherwise exist elsewhere. (Jeggle, Terry, University of Pittsburgh)	thanks
248	7	31	44	31	54	Inconsistency: most sections have no introductions. (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	Eliminated introduction
249	7	32	0	0	0	Risk sharing and risk transfer should be part of pre disaster planning (O'Brien, Geoff, Northumbria University)	Agreed and have made clear it is part of DRM
250	7	32	10	0	0	The reference to "financing arrangements that shift economic risk" appears to be from the preceeding and ongoing discussion to actually address financial risk, and clarification should be made. Often the arrangements do not address economic or physical risk. (Bender, Stephen Bender, Organization of American States (retired))	This wording is part of text that was deleted and reformulated for Chp 5
251	7	32	10	32	20	This information is also in Chp 6 and should be harmonized, with one chapter in the lead. (IPCC WGII TSU)	I sent authors of Chapter 5 and 6 revised text to eliminate redundancies and harmonize
252	7	32	12	32	15	the statement 'in the case of insurance they increase the expected average loss' needs explanation/ clarification - as it stands I would disagree with it. (Surminski, Swenja, Association of British Insurers)	Have changed to "clients pay more than their expected loss"

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
253	7	32	22	32	26	This may be the very argument that justifies dealing with risk transfer and sharing (whether dealing with local, national or international aspects and levels), in one place, in integrated fashion. As local and national rely mostly on international or internationally supported arrangements and as international is always played out on the ground in countries and localities, an integrated one off approach may be best. There are of course schemes that are developed and financed locally such as Manizales for the poor and the agricultural insurance in Bolivia among indigenous groups where local is more important than international but even those schemes cannot stand alone locally and require coverage at other levels. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	ok no change necessary
254	7	32	43	32	44	Please delete. (IPCC WGII TSU)	deleted
255	7	33	44	33	44	Costa Rica not Costa Rico--Puerto Rico not Puerto Rica!! (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	oops, thanks
256	7	34	9	0	0	I would argue that the reference 'formidable' is not appropriate in the context of an IPCC report, it is a judgement - would suggest to replace it with 'key'. (Surminski, Swenja , Association of British Insurers)	Deleted "formidable"
257	7	34	9	34	24	These examples are not discussed either at all or in much detail in Chps 5 and 6. (IPCC WGII TSU)	CLA consult
258	7	34	26	34	28	further barriers: high transaction costs; difficulty of defining independent indicators for claim assessments; lack of re-insurance (Ammann, Walter J., Global Risk Forum GRF Davos)	Added "high transaction costs"
259	7	34	30	34	31	insurance and risk financing is only effective in terms of adaptation when directly linked to risk reduction. (Surminski, Swenja , Association of British Insurers)	I added some wording to this effect
260	7	34	38	0	0	Reference to CAT bonds also calls for defining whose risk is being addressed (the national government's treasury and the ability to repay development loans, for example). (Bender, Stephen Bender, Organization of American States (retired))	On line 52, we discuss the first government-issued cat bond, and we have added something on government treasuries.
261	7	34	46	34	47	It appears from the preceding and ongoing discussion that the reference to "specific catastrophe" should be "specific natural hazard event." Both CCA and DRM are to deal with non-extreme climate events and if the report is to deal only with extreme climate events then it should sharpen its focus and include a discussion of the specific sectors and their elements that are most at risk to such events. This becomes more important if the legal approach is to be pursued by the UNFCCC. (Bender, Stephen Bender, Organization of American States (retired))	changed to "specific natural hazard event"
262	7	34	54	35	1	Constrain examples to those extreme events that have a potential climate change signal. Earthquakes do not. (Stocker, Thomas, IPCC WGI TSU)	I added that in 2009 the CAT bond included hurricane risk.
263	7	35	38	35	52	This paragraph is good and a useful encapsulation of the international benefits available. The concept or a similar type of paragraph may be usefully employed in other sections of the Chapter. (Jeggle, Terry, University of Pittsburgh)	thanks
264	7	35	42	35	52	References are needed. (IPCC WGII TSU)	have added
265	7	36	7	36	10	it would be useful to reference/cite/quote the critics (Surminski, Swenja , Association of British Insurers)	Added references to Skees, 2001 and Gurenko, 2004
266	7	36	14	36	28	What is your assessment? The governments want to hear the assessment of the author team, not a report of what others have said. (IPCC WGII TSU)	We deleted wording: "most commentators agree that"
267	7	36	19	36	23	the point about premiums exceeding the actuarial fair market price is true, but it is also true that premiums that are too low do not deliver adaptation effects. (Surminski, Swenja , Association of British Insurers)	We made this point in the preceding paragraph under "efficiency" arguments
268	7	36	31	0	0	Section 7.4.5.9: this does not fit very well here. First because of the heading: it is likely that all the approaches outlined in the sections before under 7.4 are usually also seen as not the only adaptation options, but complementary to other approaches; integrating section 7.4.5.9 in 7.4.5.2 would be more appropriate and maybe more interesting to the reader, because it would create the link to the current state of negotiations under UNFCCC, by outlining the two key proposals for risk sharing and transfer instruments made in the UNECCC process (Harmeling, Sven, Germanwatch)	I have deleted section and added to earlier section
269	7	36	31	0	0	Switzerland has proposed to establish a CO2 tax to finance an adaptation framework, consisting of both a prevention and insurance pillar. see http://www.bafu.admin.ch/klima/10343/index.html?lang=en (Spiegel, Andreas, Swiss Re)	Yes, but this is not in a peer-reviewed publication
270	7	36	31	36	44	It is not clear that this section adds anything to what is otherwise a strong section. Both proposals relate only to the UNFCCC and both are subject to ongoing discussion and revision. It may be wise to replace this section with a single sentence in the 7.4.5.1 stating that proposals for insurance mechanisms have been made as part of ongoing UNFCCC negotiations. (Lemmen, Donald Stanley, Natural Resources Canada)	Again, I have deleted, shortened to one sentence and included in beginning of section
271	7	36	47	40	21	Sub-section 7.4.6. Knowledge Creation, Management and Dissemination is important, and like sub-section 7.4.5. it does a good job of surveying the landscape and outlines some crucial issues. However some attention is required to make the content more readily comprehensible to someone not already a party to or within the various interest groups being commented upon. In some places simply improving the syntax will provide needed clarity, but elsewhere a "professional shorthand" that has been employed (e.g. "communications gaps between professional groups", "knowledge generation", and similar development-professionally neologisms) should be replaced by a more cogent expression of the issues involved. (Jeggle, Terry, University of Pittsburgh)	Attempts have been made to improve clarity and explain concepts
272	7	36	47	40	21	This entire section could be reduced considerably. It would seem logical to treat knowledge generation prior to dissemination. (Lemmen, Donald Stanley, Natural Resources Canada)	Attended - attempts were made to reduce redundancy but new information was also brought in as requested from other review comments
273	7	36	49	37	17	Inconsistency: most sections have no introductions. (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	The subsection does need a brief broad introduction
274	7	37	1	37	3	References are needed. (IPCC WGII TSU)	Provided

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275	7	37	14	37	17	web-based knowledge platforms for DRR and CCA: UN-ISDR preventionweb; GRF RiskPlanet (Ammann, Walter J., Global Risk Forum GRF Davos)	Not all platforms can be mentioned and there is not much information on GRF RiskPlanet in terms of being of significant international influence
276	7	37	20	39	26	IT/ICT are indeed critical to DRR/CCA information flow at the international level. However, it is important that at the subnational level information is transferred into appropriate formats (e.g. vernacular posters, community radios etc) (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	Attended to
277	7	37	20	40	21	You concentrate on DRM (sic) and humanitarian issues here. What is missing is an endorsement that CCA and pro-active DRR (sic) have to be integral parts of land users', land use planners', decision makers' etc. day to day work. For example, considering the effect of a management activity on a forest's vulnerability to windthrow is part of a foresters professional mindset. (Rock, Joachim, Johann Heinrich von Thuenen-Institute)	In the current draft Coming after disaster response information needs is a focus on DRR and CCA and development.
278	7	37	22	37	26	Most of this information is repeated elsewhere in the chapter. (IPCC WGII TSU)	I do not totally agree and it does not say where. However, the section has been restructured and adjusted as appropriate,
279	7	37	37	37	40	Please delete; this adds no information to your assessment. (IPCC WGII TSU)	done
280	7	38	19	0	0	no such thing as best practice – good practice yes – old hobby horse (O'Brien, Geoff, Northumbria University)	Best practice was in quotation marks to show that this may be relative but it has been deleted.
281	7	38	26	38	27	Mention should be made of the rapidly growing DESINVENTAR data base for local level registering of events and their impacts. This is now used regularly by the ISDR GAR to develop ideas and accounting as to the magnitude of small and medium scale disasters and as to extensive risk. The 2011 GAR will use data from 24 countries worldwide taken from the DESINVENTAR data base but the base has information today for over 50 countries world wide. Given climate change induced events can only be proven by a persistent increase in numbers, intensities or recurrence of events, the ability to "prove" climate change effects on event occurrence will rely for some time on being able to say that small and medium scale recurrent events are increasing rapidly. If we have to rely on extreme event occurrence to prove change is operating we will have to wait a long time given we would need a minimum of three events to establish the beginning of a tendency and if we are dealing with the 25 year flood in any area that would mean waiting 75 years on average to come to any type of conclusion. So registering small and medium scale events is critical for understanding and monitoring effects of climate change on event occurrence and intensity. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	Done
282	7	38	35	38	45	An important paragraph that illustrates how, given a clear expression of a strategic need and with sustained effort progress can be made in building crucial institutional capabilities. It may also bear mentioning that perhaps a signal "success factor" in developing PreventionWeb was that the primary Coordinating Manager of Relief Web from about 1996-2006 was able to be engaged in the design and progressive management of PreventionWeb. This represents a rare example of institutional insight to engage key directing personnel and to plan a strategic development over the time actually needed to accomplish the need, drawing on prior experience but also able to be translated into a "higher" or at least expanded level of relevance. This is a fine example of both drawing upon prior experience and equally recognizing the finer distinctions of the different tasks and audiences for the new range of products and services. I raise this issue here as I believe this institutional example to address a burgeoning international need that spans various interests and users, i.e. proceeding from the emergency event-based requirements and rapidly changing information needs of Relief Web to a much wider, professionally more diverse and the more cumulative information requirements of Prevention Web, can be a harbinger of associated forms needed to bridge the still existing DRR, CCA and development divides. The fact that the driving element involved is broadly gathered, synthesized information able to be digested, indexed and disseminated to numerous user groups is hugely consequential. (Jeggle, Terry, University of Pittsburgh)	Done
283	7	38	35	38	45	What is your assessment? What are the strengths and weaknesses? What has worked well? Why? Etc. (IPCC WGII TSU)	Addressed using limited available literature
284	7	39	1	39	6	ICT technologies are critical in DRR especially in remote areas where traditional ICT systems are not in place. Radios are sustainable and commonly available tools and have been used widely to communicate information to remote population, especially population with limited literacy. Early warning of slow-onset disaster such as droughts, raising awareness on preventive measures and education can be achieved via radio programs. A program called RANET (Radio and InterNET Technologies for the Communication of Weather and Climate Information for Rural Development) is an example of using media for DRR and linking global information to national entities and communities (A Preliminary Stocktaking: Organisations and Projects focused on Climate Change Adaptation in Africa, 2009 or http://www.ranetproject.net/) (Tokar, Ayse Sezin, U.S. Agency for International Development)	Suggestion included in the text
285	7	39	4	39	6	Indeed. With the foregoing sentences in mind one must be clear that "assimilation", while important is NOT the same thing as uptake and application in practice. As this sentence points out there are many other issues beyond knowledge management and ICT themselves that are either conducive to or serve to frustrate the use of prior knowledge and experience from elsewhere. It is important that these two issues not be confounded in this one paragraph. (Jeggle, Terry, University of Pittsburgh)	The coverage is considered adequate for this knowledge section and has been enhanced using references

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286	7	39	8	39	15	This is a hugely important issue, which unfortunately is not stated as clearly or emphatically as it should be in the initial sentence of this paragraph. It is even more important though, given the fundamental truth of this "constraint", that it not be understood that the closer linkages needed are only a matter of "coordinated knowledge sharing". While information access and use is an element, the phrasing here rather under-states the issues involved. (Jeggle, Terry, University of Pittsburgh)	Agree and Attended to but in fact this a issue for the whole chapter focus
287	7	39	29	40	21	This sub-subsection should come before 7.4.6.1. Knowledge is generated before it is organized or shared. (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	Done
288	7	39	29	40	21	Knowledge "generation" seems to this commentator an unfortunate example of the very professional jargon that this sub-section seeks to caution against. Knowledge is acquired, accumulated, learned, passed on or transferred, but the very concept of "generating" knowledge likens it to a "power plant" operated by someone or something. While I certainly understand the intention, and indeed agree with the issues raised in this subsection, the very concept of "generating knowledge" by the presumed already knowing to bestow on others seems fatuous and quite unsuited to the issues under discussion. And why knowledge "creation" in the sub-section title, and knowledge "generation" here ? (Jeggle, Terry, University of Pittsburgh)	Use of "knowledge generation" replaced with knowledge acquisition and information generation
289	7	39	29	40	21	Again, the report should call for research to relate hazards to climate changes. See the comment for 6.33.51-34.38 (Wright, Richard, American Society of Civil Engineers)	Done
290	7	39	31	40	21	Mention here could be made of the new ISDR sponsored ICSU promoted Integrated Research on Disaster Risk programme where the objectives relate to multidisciplinary or interdisciplinary work. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (FLACSO))	Done
291	7	39	44	39	52	References are needed. In addition, you could note the efforts by IRI, Hadley, and others. (IPCC WGII TSU)	Addressed
292	7	40	0	0	0	7.5. Consideration for Future Policy and Research (O'Brien, Geoff, Northumbria University)	Noted.
293	7	40	24	0	0	This section could be rewritten (Refer Additional Material-Subbiah 1.doc for suggested text) (ARJUNAPERMAL, SUBBIAH, ASIAN DISASTER PREPAREDNESS CENTER)	It has been rewritten
294	7	40	24	40	24	This section doesn't have much discussion of research needs. (IPCC WGII TSU)	More added.
295	7	40	24	43	9	As a whole Section 7.5. is weak, which is particularly disappointing as given the considerable background presented in previous sections, in looking ahead it should rather offer real and informed substance for the future, but does not. Much of the presentation is also couched in terms of intentions or more general rhetorical possibilities. This stands in contrast, for example, to the number of practical examples and initiatives which are being pursued, or proposed to be explored, in sub-Section 7.4.5. regarding Risk Transfer and Risk Sharing. A related problem is that the discussion seems bounded by the current existing institutional group composed of only the "international disaster and development communities". Unfortunately this is a very limiting approach as given the broad natures of both DRR and CCA it is highly likely that some of the motivation and much of the activity to address future collaboration and synergy is likely to reside in other organizational forms beyond such traditional international disaster and development entities. (Jeggle, Terry, University of Pittsburgh)	Section completely deleted and rewritten
296	7	40	24	43	9	In response to the request made in the Note to Reviewers, item 5, the International NGO Report referred to elsewhere ("Clouds but little rain") may offer additional perspectives as well as examples of initiatives that suggested wider potential benefits, at least in terms of DRR applications. Reference: Global Network of Civil Society Organisations for Disaster Reduction, 2009 : Clouds but Little Rain: Views from the Frontline - A local perspective of progress towards implementation of the Hyogo Framework for Action, Global Network of Civil Society Organisations for Disaster Reduction, United Kingdom) (Jeggle, Terry, University of Pittsburgh)	OK Have followed up.
297	7	40	24	43	9	Most probably this "Future" aspect needs to be of more weight. We might add "Media" and "Education" as two parties of "Environmental Education" for different levels of societies. (Yasseen, Adel, Ain Shams University - Institute of Environmental Research and Studies)	Text added.
298	7	40	28	40	49	This section would appear to be the starting point for the idea you have proposed in point 7 of your Note to Expert Reviewers. It is worth developing although I have concerns that it could result in the chapter becoming even more UNFCCC / UNISDR - centric. (Lemmen, Donald Stanley, Natural Resources Canada)	The choice to be UNFCCC and UNISDR centric is what most reviewers seem to want and expect.
299	7	40	28	41	8	This information is repeated elsewhere in the chapter and in the report. Please delete. (IPCC WGII TSU)	Deleted.
300	7	40	37	40	37	While this may be true to some extent, at least in terms of official expression in various documentation, there still remains quite limited embodiment of DRR within development practice. This can be demonstrated by the fact that the large majority of international DRR funding continues to emanate from humanitarian, emergency, or Ministry of Foreign Affairs' contributions and with little explicit development engagement, perhaps with the notable exception of the UNDP Bureau of Crisis Prevention and Recovery. (Jeggle, Terry, University of Pittsburgh)	Noted and strengthened in 7.5

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301	7	40	39	40	40	The notion of a misconception as to the real nature of things is really important. Some of us have written on the idea that many in the CCA or CC fields seem to hold the belief that DRM is all about disaster preparedness and response including rehab and reconstruction and this leads to the erroneous discussion of how adaptation is long term and DRM short term and also as to the debate over coping (coping was always originally considered a short term response to loss and need). Maybe if this topic of misconceptions is brought up we could go further with it as it does seem to add explicatory value to attempts to explain what is a very obvious inconvenient and otherwise difficult to explain divorce in the development of the two topics (DRM and ADAPTATION) given their obvious relations and common ground on many things. (Lavell, Allan, Programme for the Social Study of Risk and Disaster (ELACSO))	OK Fixed this.
302	7	40	46	0	0	It would appear that more needs to be said about integrating disaster risk considerations into more than just the "sustainable development" context. See comments on the overall chapter. (Bender, Stephen Bender, Organization of American States (retired))	We have tried to expand a bit.
303	7	41	5	41	8	This comment does pick up the concern expressed in comment 95 to some extent. (Jeggle, Terry, University of Pittsburgh)	OK
304	7	41	5	41	8	Going beyond the statement concerning lack of consensus and concrete guidance from the international communities, it should be stated that rather integrating DRR-CCA into development, the issue is recognizing risk to natural hazards that exists, and that DRR and CCA are approaches IN development that have not been used. As it stands now, and is stated now, development has the option of acting on natural hazard risks and up to this point it has chosen to allow risk to exist at levels that are not equitable to all in society, particularly the poor. (Bender, Stephen Bender, Organization of American States (retired))	Noted and corrected in the new text.
305	7	41	11	42	26	This information is repeated elsewhere in the chapter and in the report. Please reduce to a few critical observations. (IPCC WGII TSU)	Deleted.
306	7	41	34	41	34	I am not so sure what "livelihood generation and strengthening" really means in the stated context. This may be an element of development jargon that could be more explicitly and meaningfully expressed. (Jeggle, Terry, University of Pittsburgh)	Trying to keep it simple!
307	7	41	35	41	36	Not only a shift towards pre-event adaptation should be taken, but a holistic approach that accounts for prevention, intervention and recovery measures, should be applied. (Ammann, Walter J., Global Risk Forum GRF Davos)	Agreed, but our emphasis is on pre-disaster risk reduction. = adaptation
308	7	42	4	42	15	This paragraph warrents analysis. The first sentence would make a nice opening sentence for section 7.5 and I think it's a statement that IPCC could support as an "assessed" conclusion (UNISDR can be one of several supporting references). The rest of the paragraph is interesting because the types of actions called for in the HFA are - in general - not the type of action you are likely to see called for on CCA under the UNFCCC. Again this comes back to the UNFCCC being a climate change convention, not a climate convention or a development convention, and with a very specific definition of climate change. This might be worth exploring in your analysis. (Lemmen, Donald Stanley, Natural Resources Canada)	Have rewritten 7.5 and 7.6 to try to do this.
309	7	42	4	42	4	In keeping with the useful distinctions elaborated in Chapters 1 and 2 of SREX, it may be appropriate here (and indeed elsewhere in Chapter 7) to express this point as "... reducing exposure and vulnerability to weather and climate hazards." (Jeggle, Terry, University of Pittsburgh)	OK
310	7	42	29	42	49	I am unclear what the intended value of this discussion is to the purpose of Future Policies and Research between CCA and DRR ? The final para (lines 44-49) while elaborating the intentions of humanitarian reform seem to have little relevance nor to add substance to the purpose of this section. It additionally tends to confound developments in humanitarian relief and emergency assistance with a somehow unstated association with DRR/DRM, with the result of blurring crucial distinctins which should otherwise be maintained. (Jeggle, Terry, University of Pittsburgh)	OK focus on CCA and DRR and deleted humanitarian section.
311	7	42	33	43	9	It is unclear why these two sections are here. They don't add much to the discussion and are covered elsewhere in the report. Consider deleting. (IPCC WGII TSU)	All deleted.
312	7	42	38	42	42	This is an odd paragraph. The first sentence is more of an assertion than recognizedly acknowledged fact. It is questionable to what extent the international system has "coped with each of these events". One need only reflect on the serverity of consequences and failings of the international humanitarian system in recent years in such examples as the Rwandan genocide, the Indian Ocean tsunami, Hurricane Katrina, Pakistan/Himalayan earthquake, Cyclone Nargis in Myanmar, earthquake in Haiti, and most recently floods in Pakistan to seriously question the extent to which the reform measures have "stood the test of time" or even "coped effectively". Rather perhaps quite to the contrary. It is noted that the rest of the paragraph does indeed recognize these circumstances and limitations but in doing so, essentially undercuts the validity of the initial statement. Hence this paragraph as a whole may profit from being reviewed and revised with a more incisive and internally consistent perspective intended. (Jeggle, Terry, University of Pittsburgh)	Readically changed or deleted.
313	7	43	0	0	0	7.6 – A really problematic area but there does need to greater emphasis aimed at preparedness and pre-disaster planning – what principles should underpin this for example the MDGs? Disaster memory quickly fades especially amongst public officials – they can often be diverted by other problems and see the process of recovery as enough without considering if that process may be enhancing existing vulnerabilities – new ways of thinking of how we prepare for what are essentially produced unknowns and an uncertain future are needed. In short on p43 line 38 what principles needed to underpin DRR (event focused) and CCA and development (processes or continuums)? (O'Brien, Geoff, Northumbria University)	Much of this text deleted and rewritten.

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314	7	43	1	0	0	Section 7.5.4.2: the issue of relocation and migration has gained much more attention in the UNFCCC negotiations in the run-up to Copenhagen and are likely to stay on the climate change agenda, also within the UNFCCC. Since Copenhagen, it is specifically referred to in the negotiating text (http://unfccc.int/resource/docs/2010/awglca12/eng/14.pdf , page 31 para 4f) and will likely result in increased exchange, research etc., even if it is not yet formally adopted as a legal document. (Harmeling, Sven, Germanwatch)	Deleted because problematic for many reviewers.
315	7	43	1	43	9	The latter part of this sub-section needs improvement. (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	Deleted.
316	7	43	1	43	9	This is an interesting issue that may not have a home in this chapter. That's because it really doesn't fit in the nexus of CAA and DRM, as relocation and migration will be in response to "slow-onset" climate change (sea level rise, desertification) although the triggering event for migration may be an extreme event. It does not fit well in the current flow. (Lemmen, Donald Stanley, Natural Resources Canada)	Section deleted.
317	7	43	1	43	9	See comment 4 on evacuations, relocations and the law. See also a submission from UNHCR and other humanitarian agencies on statelessness and international relocation in comment no 1 litra d. (Kolmannskog, Vikram, Norwegian Refugee Council)	Section deleted.
318	7	43	12	0	0	comment mentioned in item 62. (Yasseen, Adel, Ain Shams University - Institute of Environmental Research and Studies)	OK
319	7	43	12	43	12	This section doesn't include discussion of integration across scales. Nearly everything in this section is repeated elsewhere. Please delete. (IPCC WGII TSU)	Now rewritten
320	7	43	12	43	54	Much of the integration discussed in this section is about policy or instrumental coordination. How about integration across geographic scale (international through national to local)? How about about promoting integrated disaster risk management (IDRM) as a means of building the synergies between CCA and DRR institutions and efforts. (CHANDA, RABAN, UNIVERSITY OF BOTSWANA)	Now rewritten
321	7	43	12	43	54	Were it possible and still remain within the intended purpose of this Chapter 7 it would be highly beneficial to elaborate on the salient points only suggested here in Section 7.6, especially by seeking to cite the additional roles and added dimensions of the future players and motive forces that exist beyond the traditional "international disaster management and development communities". Alternately these issues may be better situated in the following Chapter 8, but they should be covered with more elaboration somewhere in the SREX. (Jeggle, Terry, University of Pittsburgh)	Section 7.6 deleted and rewritten.
322	7	43	12	43	54	Yes I do agree that this part still need more comprehensive work. The title is promising. (Yasseen, Adel, Ain Shams University - Institute of Environmental Research and Studies)	Rewritten from scratch
323	7	43	12	43	54	This section does not really address its title well as it doesn't discuss differences on geographic scale. The chapter should build on the conclusions of chapters 5 and 6 and look at how international institutions can facilitate action at local and national levels. It is possible that the mandate of the UNFCCC and definition of climate change may emerge as a constraint here - or perhaps just that institutional barriers are likely to increase as a function of spatial scale. It would seem that part of solution to improved integration is not to count on any single mechanism as being the key to advancing the issue. (Lemmen, Donald Stanley, Natural Resources Canada)	Deleted and rewritten.
324	7	43	14	43	54	It might be useful to discuss integration of international activities across different levels There has been many discussions on UNFCCC-HFA and the section needs to address challenges in detail and make recommendations toward integration. (Tokar, Ayse Sezin, U.S. Agency for International Development)	We have tried to do this within the limited of the literature.
325	7	43	24	43	36	Absolutely crucial points that deserve to be highlighted, in particular with respect to the "gap" between what is asserted by common acknowledgement in official or international statements in contrast to the (much more limited) resulting degrees of actual engagement or practice by the same official entities or authorities. (Jeggle, Terry, University of Pittsburgh)	Noted.
326	7	43	38	43	41	This is THE point that the entire Chapter should be driving towards if it is truly to point a way to future requirements. In that respect, this issue may well serve as the overall objective that can provide the storyline (red thread) or flow sought in the Note to Reviewers, item 3. (Jeggle, Terry, University of Pittsburgh)	Have included in the new draft SOD
327	7	61	0	0	0	Figure 7-1. Note that Chapter 4 (fig 4-18) provides the same figure, but updated based on Munich-Re 2008. There is no need to duplicate an older version of the figure here, and instead, a reference to the chapter 4 figure should be made in the text. (Stocker, Thomas, IPCC WGI TSU)	Deleted.
328	7	61	0	0	0	In fig 7-2 on the left; the title of hor.axis and the title at the top are same. Graph type can be change. (Incecik, Salahattin/Selahattin, Istanbul Technical University)	Deleted.
329	7	614	52	0	54	Are there any indications when an internationally agreed mechanism for generation, storage and retrieval and sharing of integrated climate change risk, information, knowledge and experiences will be established? This is a very key issue indeed in my opinion, and should be pursued urgently. (Young, Ronald, Young International Ltd / Knowledge Associates International Ltd)	No, it is highly scattered and there is no enthusiasm for a central repository or one window approach... there will continue to be many actors.
330	7	615	1	0	12	As you rightly report that knowledge is fragmented with no clear international mandate, in many cases, should a UN body be considered to ensure global standards, principles, processes and tools to better achieve this vital task, as a question for this report? (Young, Ronald, Young International Ltd / Knowledge Associates International Ltd)	Yes it should but we cannot prescribe it
331	7	615	25	0	26	The need for a global knowledge strategy was noted in this report by Marincioni in 2007. What has happened since? This work is absolutely vital now and any progress on intentions to develop a global knowledge strategy should be mentioned. (Young, Ronald, Young International Ltd / Knowledge Associates International Ltd)	There is no agreement among the actors about how to organize a global knowledge strategy - wikipedia?