

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
1	35174	15	0	0	0	0	The internal structure of the chapter needs to be a bit more coherent. As this is a very comprehensive review - no doubt about the extensive and ambitious efforts put into the review! - it is not surprising that there are overlaps and that similar statements are made in different parts with different studies and papers supporting them. (Sofie Storbjork, Linkoping University)	Noted-structure is being modified
2	38308	15	0	0	0	0	This chapter could be strengthened by including a section on the links between national and district government. Understanding the institutional and socio-political barriers to delivering adaptation at the local level (through district government) is a key issue, on that is not raised sufficiently within the context of the chapter. (Lindsey Jones, Overseas Development Institute)	National and subnational are being addressed further. Additional literature on local barriers will be added to chapter 16
3	38579	15	0	0	0	0	See attached file "Infrastructure-Wright.docx" for comments relevant to chapter. (Richard Wright, Retired, U.S. National Institute of Standards and Technology)	Document was not received
4	41180	15	0	0	0	0	Overall this section is well written and provides a clear indication of what the intent of the chapter is, presents the necessary context with brevity, and offers a clear and informative review of the literature. As I've also indicated for earlier chapters, the inclusion of a social-ecological systems (SES) perspective throughout this chapter is necessary to provide consistency throughout the entire report and to support the emphasis this perspective is given within later chapters (Ch 19 & 20 specifically). Also see my general comment on the entire report related to SES. (Susan Evans, WWF-Canada)	Nature-based approaches have been updated throughout
5	41396	15	0	0	0	0	It would enrich the chapter if there were given some thoughts on how developed countries can learn from developing countries and vice versa, in regard to climate change adaptation (planning). (Sven Harmeling, Germanwatch)	Chapter 14 and 16 have more explicit roles on guidance. Where cross-learning has occurred and can be documented we have attempted to include it
6	41593	15	0	0	0	0	This is an interesting and informative chapter, although there is some overlap with chapter 8 (especially with regard to institutional capacities and the governance of adaptation). In my view a few issues are missing in the analysis. First of all, there is no attention paid to the normative aspects of adaptation planning and implementation. Relevant questions in this respect are: (1) what kind of legal and policy principles should public and private actors take to heart when formulating and implementing adaptation measures? (UNFCCC principles and other relevant international law principles); (2) which societal interests should be protected by climate adaptation policy and in what order?; (3) To what extent are governments responsible for adaptation to climate change and what are the responsibilities to be borne by private parties and citizens? The first two questions are extensively addressed in a paper written by Driessen, P.P.J. & H.F.M.W. van Rijswijk (2011). Normative aspects of climate adaptation policies, <i>Climate Law</i> 2(4): 559-581. In a very recently published paper by Mees et al. (2012) the last question is treated (H.L.P. Mees, P.P.J. Driessen & H.A.C. Runhaar. Exploring the scope of public and private responsibilities for climate adaptation, <i>Journal of Environmental Policy and Planning</i> , in press). Secondly, the concept of 'capacities' (or capabilities) is often mentioned but never fully defined and explored. There is already some literature in this respect, for instance: Gupta, J. et al. (2010). The adaptive capacity wheel: a method to assess the inherent characteristics of institutions to enable the adaptive capacity of society, <i>Environmental Science and Policy</i> 13: 459-471. I would like to suggest to define governance capacity as 'the ability to govern or the ability to intervene in societal processes in order to realize collective goals (i.e. goals related to adaptation to climate change). Five governance capacities can be distinguished (in fact these are all implicitly mentioned in this chapter): (1) institutional: presence of legal provisions and decision-making procedures; (2) organizational: allocation of responsible public and/or private organizations and leadership; (3) resource: availability of policy instruments and financial resources; (4) collaborative: ability to ensure collaborative action between actors on different administrative levels and policy domains; (5) learning: capacity to monitor, evaluate and improve governance actions. Third, there is much more literature on the governance of adaptation than mentioned in this chapter. For instance: the ADAM-project - mentioned on page 11 - has resulted in four books (Hulme and Neufeldt (2010) <i>Making climate change work for us</i> , CUP; Biermann et al. (2010). <i>Global climate governance beyond 2012</i> , CUP; Jordan et al. (2010). <i>Climate change policy in the European Union</i> , CUP; Gupta and Van der Grijp (2010). <i>Mainstreaming climate change in development cooperation</i> , CUP. Furthermore there is a special issue on the Governance of adaptation published in <i>Climate Law</i> , 2011(2). Finally, Jörg Knieling and Walter Leal Filho will publish a book at Springer by the end of this month entitled 'Climate Change Governance'. To summarize, there is much more to say about the governance of adaptation and especially about appropriate institutional arrangements and the effectiveness, efficiency and legitimacy of climate adaptation policies. Key issues in this respect are mentioned below (see comment on section 15.5 page 32). (Peter P.J. Driessen, Utrecht University)	Normative and conceptual issues are taken up in Chapter 14.
7	42700	15	0	0	0	0	Excellent, comprehensive review of adaptation planning and implementation, clearly written and structured (Bruce Harris Small, AgResearch Ltd)	No action needed
8	42766	15	0	0	0	0	Section 15.3.2.5: This section is extraordinarily thin, and the topics discussed are arbitrary and small in the context of the overall set of issues relating to insurance and social safety and adaptation. Either expand this chapter to include such material, or refer directly to another chapter in which this information is presented (currently, it is best presented in chapter 17 and in Box 16-4 in Chapter 16). (Sean Hecht, UCLA)	Additional material on insurance and social safety will be added and referenced with insurance sections of other chapters
9	43143	15	0	0	0	0	Acronyms need to be defined at various places throughout the chapter. (SHAHBAZ MEHMOOD, Global Change Impact Studies Centre)	Agree.will define as suggested.

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10	43354	15	0	0	0	0	The first order draft of this chapter represents a very significant improvement compared to the zero order draft. The structure of the chapter is more logical, and the presentation is much more clear now. (Hans-Martin Füssel, European Environment Agency)	No action needed
11	44858	15	0	0	0	0	Excellent start. Very thorough and interesting. Needs some polishing, but this is a nice overview of adaptation activities. Nonetheless, there is some repetition throughout the chapter. You have two opportunities to take on organization (Joel Smith, Stratus Consulting Inc.)	Will reduce repetition and edit as suggested
12	44872	15	0	0	0	0	I don't see a section on national planning; at least not in 15.2 (Joel Smith, Stratus Consulting Inc.)	There is a section on "National planning"
13	47696	15	0	0	0	0	The authors speak of win-win adaptation strategies in the Maldives. The one study referred to (and in chapter 15) on this does provide some evidence of ongoing adaptation projects. In the case of the Maldives, despite its vulnerability to climate change, it is only recently that there has been any shift towards integrating adaptation into development planning. The project discussed is said to have various resilience measures built into but I would like to know the balance of investment across those measures and to what extent community engagement is central to planning. My own view is that the Maldives has no well-established adaptation program as distinct from projects that link into a climate-resilient development program. I suggest caution in using such examples until they have been assessed and evaluated. See Benjamin K. Sovacool. 2012. Perceptions of climate change risks and resilient island planning in the Maldives. Mitigation and Adaptation Strategies and Global Change 17:731–752 (Bob Pokrant, Curtin University)	Agree. Will take in to consideration in new version
14	47698	15	0	0	0	0	There is some repetition in the chapter. For example, the establishment of climate units is referred to several times. Is such repetition necessary? (Bob Pokrant, Curtin University)	Will coordinate with Chapters 14, 16 and reduce overlap
15	47919	15	0	0	0	0	These are good overviews of planning and implementation, but the link between them – what actually helps to get adaptation plans implemented? – is not explored satisfactorily. NAPAs (p. 10) are an example in that some of them have remained largely as laundry lists of projects that are not funded or implemented. (Jenny Frankel-Reed, USAID)	Agreed. This is a major limitation of the majority of literature. A new section on "bridging" will be added
16	48916	15	0	0	0	0	Excellent chapter (Leon Soste, Department of Primary Industries, Victoria, Australia)	No action needed
17	49422	15	0	0	0	0	Chapter 15 is very well-written and logical, and compared to the three companion chapters on adaptation issues, is probably the most advanced. The chapter correctly points out the disparity between (a) capacity-building and planning efforts (of which there are many examples) and (b) concrete adaptation actions (of which there are few). It then provides a thorough and well-reasoned description of existing efforts, with probably 99% of the text covering capacity building and adaptation planning. Despite the scarcity of concrete actions, I recommend that the chapter put more emphasis on these actions, because there is a greater need for a synthesis of these actions. (J. Randall Freed, ICF International)	Agreed. A synthesis is needed and will be undertaken in the new version.
18	49423	15	0	0	0	0	One of the common problems that impedes moving from planning to action is that most adaptation processes move in a sequential fashion from diagnosis to design to implementation (and then theoretically to evaluation). Given that most studies start with a large set of natural resources, human subpopulations, and / or infrastructure assets to evaluate (in terms of climate risk), the diagnostic step tends to be complicated and data-intensive, and it tends to get bogged down in issues of scientific uncertainty. This leads to a situation where the diagnosis step takes a long time; most efforts (including those listed in the chapter) are still grinding their gears trying to screen a large set of risks; some have progressed to a more detailed assessment; but few have completed the diagnosis process because design (and implementation) rarely start until the slowest / most time-consuming resources / subpopulations / assets have completed the risk assessment stage. (J. Randall Freed, ICF International)	Agree. Will take into account especially regarding the time needed for learning and organization
19	49424	15	0	0	0	0	By setting up a "multi-track" process where the more obvious high-risk issues - with more tractable adaptation design options - can proceed on a fast track basis, it's possible to break loose from the "paralysis by analysis" problem that has beset most capacity-building / adaptation planning exercises to date. One example: the "Immediate Actions" subgroup in the Alaska Climate Change Strategy. Though AK's adaptation planning is mentioned several times in the document, the success of the Immediate Actions Subgroup in identifying a tractable set of problems and marshalling resources wasn't mentioned. (J. Randall Freed, ICF International)	will include discussion of bridging planning and implementation
20	49425	15	0	0	0	0	In the international development context, it's often the case that climate risks are highest for resources and subpopulations already at high risk from other stressors (i.e., situations with very high vulnerability). Often, the very same resources that are at high risk to climate impacts are already at high risk, and thus development objectives coincide with adaptation opportunities (this point is made well in the chapter in several locations). Such situations are ripe for a "fast-track implementation" approach. (J. Randall Freed, ICF International)	agree. Will strengthen as needed
21	49426	15	0	0	0	0	If it would be helpful, I'd be happy to elaborate on these points, and some of the slight changes in the typical diagnose-design-implement-evaluate process that would be needed to mainstream a "fast-track implementation" process. (J. Randall Freed, ICF International)	Will search for relevant references
22	50863	15	0	0	0	0	1) Overall -- In preparing the 2nd-order draft, the chapter team should prioritize making each section of the chapter a polished, comprehensive treatment of topics considered. From these sections, the chapter team is then encouraged to maximize the utility of its findings, ensuring that they are robust, compelling, and nuanced. Themes to consider informing in constructing findings include decisionmaking under uncertainty, risks of extreme events and disasters, avoided damages, and limits to adaptation. To these ends, the chapter team has prepared a solid first-order draft. In an effort to inform further chapter development, I provide some general and specific comments below. (Katharine Mach, IPCC WGII TSU)	Will follow directives as appropriate within page limits

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23	50864	15	0	0	0	0	2) Highlighting key findings -- In developing the 2nd-order draft, the chapter team should continue clearly presenting key findings throughout the chapter's sections, using calibrated uncertainty language to characterize its degree of certainty in these conclusions. In this way, a reader of the chapter is able to understand how the literature reviews and syntheses--the traceable accounts--support the conclusions of the chapter, especially those presented in the executive summary. The author team is also encouraged to continue its detailed and nuanced characterization of findings in the context of the executive summary. (Katharine Mach, IPCC WGII TSU)	Accepted. Will incorporate.
24	50865	15	0	0	0	0	3) Usage conventions for calibrated uncertainty language -- Where used, calibrated uncertainty language, including summary terms for evidence and agreement, levels of confidence, and likelihood terms, should be italicized. In addition to incorporating these terms directly into sentences, the author team is encouraged to continue presenting them parenthetically at the end of sentences or clauses. Casual usage of the reserved uncertainty terms should be avoided, as has been flagged in some specific comments throughout the chapter. (Katharine Mach, IPCC WGII TSU)	Will employ where evidence fits confidence levels
25	50866	15	0	0	0	0	4) Figures and tables -- Figures, as well as tables, represent an important and effective vehicle for clear communication of assessment and corresponding key findings. The chapter team is strongly encouraged to continue developing figures to complement the robust assessment in the chapter text. In terms of technical aspects of figure development, support is available within the TSU if you would like; please contact Monalisa Chatterjee and Yuka Estrada. (Katharine Mach, IPCC WGII TSU)	Will take into consideration
26	50867	15	0	0	0	0	5) Coordination across the Working Group 2 contribution -- In developing the next draft of the chapter, the author team should consider treatment of topics not only in this chapter, but also across the report as a whole. For each topic, the chapter team should ensure that treatment here is reduced to the essence of what is relevant to the chapter, with cross-references made to other chapters as appropriate, also minimizing overlap in this way. (Katharine Mach, IPCC WGII TSU)	Will use as appropriate, This is discussed further in Chapter 16
27	50868	15	0	0	0	0	6) Harmonization with the Working Group 1 contribution to the AR5 -- At this stage of chapter drafting, the author team should carefully consider the working group 1 contribution. Wherever climate, climate change, climate variability, and extreme events are discussed, the chapter team should ensure that their treatment is harmonized with the assessment findings of working group 1. (Katharine Mach, IPCC WGII TSU)	Will take into consideration. Adaptation carries a broader set of requirements across temporal and spatial scales of climate
28	50869	15	0	0	0	0	Executive Summary -- For subsequent work on the executive summary, there are several aspects of development to consider. 1st, calibrated uncertainty language (including summary terms for evidence and agreement) should be italicized wherever used. 2nd, the author team has done a nice job of communicating conclusions with specificity, illustrating with nuance where the state of current understanding lies. The author team is very much encouraged to maintain this approach to presentation of key findings. (Katharine Mach, IPCC WGII TSU)	Will take into consideration
29	52414	15	0	0	0	0	Referencing notes relating to the references cited in this chapter and in review comments on chapter 15 (Joseph Reser, Griffith University)	Agree
30	53069	15	0	0	0	0	The adaptation chapters did a relatively good job coordinating material across the chapters. (Kristie L. Ebi, IPCC WGII TSU)	No action needed
31	53070	15	0	0	0	0	This chapter should directly address M&E, as well as iterative and adaptive management; and issues with cross-sectoral planning and implementation. (Kristie L. Ebi, IPCC WGII TSU)	Agree. Will incorporate as evidence warrants
32	53071	15	0	0	0	0	The chapter is more a catalogue than an evaluation of the literature. Policy makers will be looking for best practices. (Kristie L. Ebi, IPCC WGII TSU)	Will add section on emerging lessons
33	53072	15	0	0	0	0	Other issues that could be discussed include the importance of boundary organizations for communication and implementation; climate services; and the current and possible future roles of organizations such as FAO and WHO in adaptation. (Kristie L. Ebi, IPCC WGII TSU)	Will add material on boundary organization and international coordination efforts
34	53073	15	0	0	0	0	The chapter should provide a range of examples across the sectors included in the WGII report. (Kristie L. Ebi, IPCC WGII TSU)	A Table will be prepared
35	53074	15	0	0	0	0	It could be useful for the adaptation chapters to identify one or a few case studies to include in all three chapters, with each chapter exploring relevant aspects. (Kristie L. Ebi, IPCC WGII TSU)	In process for a typology of practices
36	53075	15	0	0	0	0	Please change all instances of disaster risk reduction to disaster risk management as the latter is a broader perspective (see SREX glossary). (Kristie L. Ebi, IPCC WGII TSU)	The Chapter is in keeping with the international uses of "risk reduction" vs "risk management"
37	53956	15	0	0	0	0	As mentioned in other adaptation chapters, given that visualization of complex concepts are often used (by authors, readers, and media alike) to summarize and/or provide the framework of given topic or chapter, I would like to invite the author team to develop figures and tables that could illustrate the main concepts of this chapter. (Yuka Estrada, IPCC WGII TSU)	Will be added as needed and as space allows

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38	54452	15	0	0	0	0	GENERAL COMMENTS: I would like to thank the authors for their work on the FOD. When considering the expert review comments received on your chapter and the next round of revisions, I suggest several overall priorities. (1) Keep in mind that the preparation of the SOD is the time to ensure that each section of the chapter presents a comprehensive treatment of relevant literature, and that the Executive Summary presents findings that capture the key insights that arise from the chapter assessment. (2) This is also the time to focus on distilling the chapter text, not just fine-tuning wording but editing with a critical eye to improving quality by making discussions succinct and synthetic, while still being comprehensive. (3) Cross-chapter coordination is also important at this stage, as it should now be possible to identify topics that overlap with other chapters and to coordinate with other chapter teams to minimize that overlap. (4) Cross-Working Group coordination is important as well, and relevant chapter sections should cross-reference chapters from the other Working Groups, particularly in the case of statements about changes in mean or extreme climate conditions that are assessed in the contribution of Working Group I. (5) Continue to look for opportunities for the creation of figures that synthesize across results from the literature and/or highlight conceptual themes. (Michael Mastrandrea, IPCC WGII TSU)	Agree will comment and will revise and incorporate as suggested and literature allows
39	54453	15	0	0	0	0	EXECUTIVE SUMMARY: The author team has made a good start on the Executive Summary, including clear attention to providing traceable accounts (see separate comment on this) and calibrated uncertainty language. For the SOD, I suggest considering ways to increase the specificity of some Executive Summary findings, providing further details in various findings to enrich the general points currently being made and link them from the abstract to the concrete. Further specifics about the evidence the knowledge base provides of what works and what doesn't in terms of implementation and planning would be very useful. Some findings include specific examples, which is a step in the right direction, and I also have in mind clear statements of general themes emerging across specific cases. Finally, it is also worth considering whether the agreement/evidence assignments made in the current version could be used as a basis for confidence assignments (potentially retaining the agreement/evidence language as well, e.g., high confidence based on high agreement, medium evidence). Doing so would allow greater comparability across chapter findings, given that some chapters are taking such an approach, and others are presenting only confidence assignments. (Michael Mastrandrea, IPCC WGII TSU)	Agree will comment and will revise and incorporate as suggested and literature allows
40	54454	15	0	0	0	0	TRACEABLE ACCOUNTS: The author team has made a good start to providing traceable accounts for assessment findings and highlighting the location of those traceable accounts in the Executive Summary. In general, I would recommend the author team continue to strengthen the linkage of the Executive Summary findings with the underlying chapter text. In this context, I would suggest providing some explanation of the calibrated uncertainty language used in the Executive Summary in the corresponding chapter section(s) where the traceable account appears for each finding. In some cases there is clear linkage of text in the Executive Summary and text in the chapter, but without mention of the calibrated language in the chapter text. In situations where evidence and/or agreement is not robust and/or high, it would be useful to understand why the author team has made this judgment--why is evidence not robust, why is agreement not high. In situations where evidence is robust and agreement is high, what is the evidence that forms the basis for these assignments. Succinct descriptions in the chapter text of this type will both highlight the basis for ES findings and help explain the author team's assessment of the literature. We in the TSU are also available to discuss these issues if that would be of use. Finally, section 15.6 presents much of the material from the Executive Summary. This section may provide an opportunity for explaining synthesis across chapter sections and calibrated language assignments, if this does not fit well into other sections for some findings. If material is presented in 15.6 that overlaps with specific findings, it should be included in the line of sight references in the Executive Summary as well. (Michael Mastrandrea, IPCC WGII TSU)	Will strengthen the linkage between the ES and text. A technical framing of uncertainty may not apply in the contexts for adaptation
41	54625	15	0	0	0	0	Chapter team should consider coordinating with chapters 14 and 16 on framing the perspectives on adaptation existing in the current literature and also highlight how the team has translated the information from different perspectives into the risk management framework. (Monalisa Chatterjee, IPCC WGII TSU)	Agree and are pursuing as suggested with Chapters 14,16
42	54626	15	0	0	0	0	The author team is encouraged to consolidate discussions and synthesize findings from sections in the chapter to avoid repetition. Moreover, the author team is requested to use strategies like tables, figures, maps to present synthesized findings where ever possible. (Monalisa Chatterjee, IPCC WGII TSU)	Agree. Will do as evidence/literature permits
43	54627	15	0	0	0	0	The chapter team should try and balance examples from different regions/sectors. At present, the chapter uses more examples from developed countries and rural areas. (Monalisa Chatterjee, IPCC WGII TSU)	Will take under consideration and impelment as appropriate
44	54628	15	0	0	0	0	The section headings in chapter are general and descriptive. The discussion within these sections raise several issues however, without subsections many of the key findings are buried in the text. The author team may wish to incorporate additional subsections to categorize findings in broad sections. (Monalisa Chatterjee, IPCC WGII TSU)	Agreed. References will be updated
45	54658	15	0	0	0	0	If literature permits, the author team may want to add more examples in the chapter. (Monalisa Chatterjee, IPCC WGII TSU)	Agree. As literature and space permits
46	54659	15	0	0	0	0	The author team should update the reference list and remove citation inconsistencies between in text citations and full citations given in the reference list. Please see supplementary document named WG2AR5-Chap15Reference ChecksA.doc and WG2AR5-Chap15Reference ChecksB.doc at <a href="https://ipcc-wg2.gov/AR5/author/FOD/SuppMat">https://ipcc-wg2.gov/AR5/author/FOD/SuppMat</a> (Monalisa Chatterjee, IPCC WGII TSU)	Agreed. References will be updated and inconsistencies removed
47	54660	15	0	0	0	0	Literature permitting, the chapter team is encouraged to add more cases to support their findings. (Monalisa Chatterjee, IPCC WGII TSU)	Agree. Will do as evidence/literature permits
48	54661	15	0	0	0	0	Literature permitting, the chapter team is encouraged to add more cases to support their findings. Moreover, it would be useful if the enabling or deterring factors, drivers etc., are explicitly stated where ever possible. (Monalisa Chatterjee, IPCC WGII TSU)	Agree. Will do as evidence/literature permits

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49	48917	15	1	36	1	39	section 15.3.2 adaptation tools - again, my observation is that we lack decision making tools (such as means of evaluating the relative economic merits of various on-farm adaptation options under on-going uncertainty) - I wonder whether this area needs some attention and additional work. Links to p20, lines 45-51 (Leon Soste, Department of Primary Industries, Victoria, Australia)	We revised it to new section of 15.2.4. We will further consider to incorporate the point in the next revision.
50	42857	15	2	24	0	0	The Executive Summary needs further tightening. In some paragraphs, sentences are not logically linked to the conclusion bolded on top, and it is not clear whether it reflects the authors views or the body of evidence. Suggest revising accordingly (see Chapter 29 for a good example) (Sofia Bettencourt, World Bank)	We made revisions for ES.
51	54455	15	2	26	2	35	Regarding the traceable account for this finding, this is a small point, but the reference to 15.2 and 15.2.2 is slightly ambiguous. Much of the text found in the Executive Summary finding is in the introduction to 15.2, but sections 15.2.1 and 15.2.2 contain information relevant to the finding. Since 15.2.2 is mentioned explicitly, it might be clearest to add 15.2.1 to the bracketed list (since it includes information on where national-level plans and strategies are becoming available). (Michael Mastrandrea, IPCC WGII TSU)	Thank you for the comments. We revised 15.2. Will indicate 15.2.1 in the next round if needed.
52	35125	15	2	27	0	29	This is an exact formulation that reoccurs in the chapter. Several case-studies on climate adaptation suggest that for spurring at least local action, the occurrence of weather extremes and direct experiences of climate-related problems are a perhaps even more important "trigger" for raising awareness/importance of climate adaptation. See e.g. Næss, L-O, Bang, G., Eriksen, S. & Veatne, J. (2005), Institutional adaptation to climate change: Flood responses at the municipality level in Norway, Global Environmental Change, 15, pp. 125-138. Storbjörk, S. (2007), Governing Climate Adaptation in the Local Arena: Challenges of Risk-Management and Planning in Sweden, Local Environment, 12, pp. 457-469. Amundsen, H., Berglund, F., and Westskog, H., 2010. Overcoming barriers to climate change adaptation: a question of multilevel governance? Environment and Planning C: Government and Policy, 28, 276-289. Nilsson, A., Gerger Swartling, Å., and Eckerberg, K., 2012. Knowledge for local climate change adaptation in Sweden: challenges of multilevel governance. Local Environment, in press. I know that the papers mentioned are from a Nordic context but more generally the reactive/event-driven nature of climate adaptation initiatives is often noted. See e.g. Adger, N., Arnell, N., and Tompkins, E., 2005. Successful adaptation to climate change across scales. Global Environmental Change, 15, 77-86. See also conclusions within this chapter on the role of local champions by Carmin et al 2012. (Sofie Storbjörk, Linköping University)	Thank you for the comments.
53	35126	15	2	29	0	31	This is also an exact formulation that reoccurs throughout the chapter but when this is discussed based on peer-review and gray literature (section 15.2.1, p6, lines 19-20) no reference is currently given for this observation which - as this point is made on several occasions in the chapter - is problematic. References supporting this argumentation should be added. (Sofie Storbjörk, Linköping University)	References are added at 15.2.1
54	44859	15	2	31	2	31	Should "developing" be "developed?" (Joel Smith, Stratus Consulting Inc.)	No, the present word is correct.
55	44860	15	2	34	2	35	"well adapted" to what? Can we ever know that a society is well-adapted to future climate change? (Joel Smith, Stratus Consulting Inc.)	I understand what the reviewer means. But this is a symbolic word, so not adequate to add long explanation. We leave the word as it is.
56	44398	15	2	35	0	0	Maybe add "...well-adapting AND RESILIENT society". (Linda Sygna, University of Oslo)	I understand what the reviewer means. But this is a symbolic word, so not adequate to add long explanation. We leave the word as it is.
57	45076	15	2	37	0	43	Repetition with Chapter 14 (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	This is an important observation of what has happened, which is relevant to this chapter.
58	53076	15	2	37	2	43	This overlaps with chapter 14. (Kristie L. Ebi, IPCC WGII TSU)	This is an important observation of what has happened, which is relevant to this chapter.
59	52867	15	2	45	2	52	A more appropriate headline might be to highlight the need for complementarity in bottom up and top down approaches, due to the place-specific nature of on the ground adaptation but also the need for a strong enabling environment for adaptation (John Hay, University of the South Pacific)	Thank you for the comments. This paragraph focuses on the role of governments and a notion about top-down/bottom-up issue is given in the fifth paragraph.
60	53077	15	2	45	2	52	This also overlaps with chapter 14. (Kristie L. Ebi, IPCC WGII TSU)	This is an important observation of what has happened, which is relevant to this chapter.
61	37348	15	2	47	0	0	Please define NAPA (So Kazama, Tohoku University)	We eliminated NAPA here and discussed it later.
62	41430	15	2	47	0	0	NAPAs have only been applied by and supported for Least Developed Countries, while the sentence suggests this is an instrument used across all developing countries. (Sven Harmeling, Germanwatch)	We eliminated NAPA here and discussed it later.
63	44861	15	2	47	2	47	Delete "favorably viewed as" as it injects opinion (Joel Smith, Stratus Consulting Inc.)	Agreed.
64	44862	15	2	49	2	51	Very good (Joel Smith, Stratus Consulting Inc.)	Thank you.
65	37159	15	2	52	0	0	Important to mention opportunities of NAPs as already approved by COP 17. (Angela Andrade, Conservation International Colombia)	Thank you, but we eliminated NAPA here and discussed it later.
66	41374	15	3	1	3	2	The first paragraph is very much about ecosystem-based adaptation. This should be recognized in the title. (Sven Harmeling, Germanwatch)	The structure of ES was changed to make a paragraph (Para 4 in ES) focusing more on resilience building including eco-system.
67	52868	15	3	1	3	11	The statement implies success in these countries in terms of reducing climate-related risks, including making development more resilient; but there is little/no evidence of such tangible improvements (John Hay, University of the South Pacific)	The structure of ES was changed to make a paragraph (Para 4 in ES) focusing more on resilience building including eco-system.

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68	35634	15	3	2	0	0	Bangladesh, Cambodia, Bhutan, and the Maldives are given as examples of providing a 'win-win' adaptation strategy. While Bangladesh is widely recognized as a successful case in mainstreaming climate change adaptation and implementing adaptation measures, further evidence may be required for other three to be concluded as such. The same comments apply to page 35, line 48. (Norio Saito, Graduate School of Science and Engineering, Ibaraki University)	The structure of ES was changed to make a paragraph (Para 4 in ES) focusing more on resilience building including eco-system. Then we deleted country names to make the statement more general.
69	41431	15	3	3	0	0	it is not clear what the phrase "linked to development funding" should mean: are the adaptation efforts supported by developing funding? Is it seen different to adaptation funding? (Sven Harmeling, Germanwatch)	We deleted the paragraph to make the statement in ES more focused one.
70	49096	15	3	3	3	4	Please consider to include Ethiopia and Mozambique in the list of countries. Ethiopia has shown progress on especially the administrative level with respect to climate change adaptation and Mozambique, as a typical downstream country, has done alot with respect to decreasing their vulnerability and increasing their resilience against floods. (Oyvind Christophersen, Climate and Pollution Agency)	We deleted country names and paragraph itself to make the statement more general in the fourth paragraph.
71	48161	15	3	5	0	0	Please add a "can": "...change adaptation efforts can also improve ecosystem resilience by implementing sustainable forestry quotas, expanding...". This is far from automatic. Please also fix in the underlying text if needed. (Jochen Harnisch, KfW)	We kept the previous expression in the new fourth paragraph of ES, but will consider more precise expression.
72	44863	15	3	10	3	11	Mentioning the Humbo project in one sentence in the ES is not helpful. (Joel Smith, Stratus Consulting Inc.)	Agreed.
73	45077	15	3	13	0	20	duplicates Chapter 14 (should be here more than there possibly) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	We deleted this paragraph following the restructuring of ES.
74	41375	15	3	14	3	20	To put this in the "big picture framework" it would be good to mention that climate change mitigation is still frontrunner in most urban areas around the world. (Sven Harmeling, Germanwatch)	It is not always relevant to deal with a big-picture including mitigation in ES. In addition, we deleted this paragraph following the restructuring of ES.
75	35127	15	3	15	0	18	This is also an exact formulation that reoccurs throughout the chapter and the data comes from the very interesting paper by Anguelovski and Carmin 2011. The problem is that their conclusions on the dedicated climate units in the article seems to refer to mitigation efforts whereas the work on adaptation is described as being more diversely organised. The formulation thus needs to be nuanced as it is so reoccurring. (Sofie Storbjork, Linkoping University)	Thank you for the comments. We deleted this paragraph following the restructuring of ES.
76	42858	15	3	25	3	31	Where is the evidence that funding through national governments is unlikely to reach the lowest income and most vulnerable people?. Many community driven development (CDD) initiatives are, in fact, funded through central government mechanisms (see for example, the Malawi or Tanzania Social Fund, or the Madagascar FID program, which incorporates DRR. These national programs have robust monitoring and evaluation mechanisms to screen out beneficiaries, ensuring they reach the most vulnerable. Suggest changing the sentence. Also, adaptation requires both bottom up as well as top down initiatives - communities need external guidance and knowledge to adapt better to changes that they may not have foreseen (Sofia Bettencourt, World Bank)	We deleted this paragraph following the restructuring of ES.
77	41432	15	3	27	0	0	it is not clear why the issue of adaptation finance not channelled to the most vulnerable people is addressed here, although it is quite important in general. (Sven Harmeling, Germanwatch)	We deleted this paragraph following the restructuring of ES.
78	41376	15	3	28	3	28	I think it would be important to stress that "there is an urgent need that the most vulnerable people are reached by future adaptation finance" (Sven Harmeling, Germanwatch)	Thank you for the comments. We deleted this paragraph following the restructuring of ES.
79	44864	15	3	30	3	31	Agree, but as noted above, may still need national level support, e.g., funding, technical assistance, enabling or mandating legislation. (Joel Smith, Stratus Consulting Inc.)	We deleted this paragraph following the restructuring of ES.
80	35635	15	3	31	0	0	Even in developed countries, impacts of climate change occur at the local level. So the popularity of community-based adaptation needs to be explained from a different perspective. One reason would be that the capacity of national and local governments is rather weak, thereby communities are expected to play a major role in advancing adaptation. (Norio Saito, Graduate School of Science and Engineering, Ibaraki University)	We deleted this paragraph following the restructuring of ES. The top-down/bottom-up issue is in the fifth paragraph.
81	52869	15	3	33	3	33	Headline should refer to DRR, not DRM (John Hay, University of the South Pacific)	Agreed.
82	42859	15	3	33	3	43	There are other types of approaches that are common to CCA and DRR: risk assessment and management (including planning and mapping); mainstreaming (of which strategies, policies and legislation are a part). Also, risk transfer is not just a tool for developing countries. (Sofia Bettencourt, World Bank)	This aspect is discussed in 15.2.3.2. We cannot list many strategies and approaches in ES.
83	44399	15	3	35	0	0	Would it be more appropriate to say "Disaster risk reduction (DRR) includes managing risks (hazards and vulnerability) from extreme events..." the other part of this sentence is not clear. Does the assessment support this statement that DRR helps communities deal with the uncertainty of climate change. Or are we her talking about climate variability and extremes. (Linda Sygna, University of Oslo)	We revised the paragraph to make the sentences clearer.
84	50870	15	3	37	3	37	The author team should consider formulations here that avoid potential interpretations of policy prescription. For example, it would be preferable to indicate the benefits of coordination, rather than stating that it "must" be approached. (Katharine Mach, IPCC WGII TSU)	We revised the paragraph, but "must" still remains. We will deal with this in the next revision.
85	54456	15	3	40	3	41	I would suggest removing "avoid" here, given that it is impossible to completely avoid extreme weather and climate events that occur regardless of disaster risk management and climate change adaptation policies. (Michael Mastrandrea, IPCC WGII TSU)	We revised the paragraph, and the sentence including "avoid" was deleted.
86	50871	15	3	41	3	41	The author team may wish to consider usage of the word "avoid" here. That is, many extreme weather and climate events--in terms of the hazard itself--cannot be avoided; rather it seems more nearly that it is the impacts that can be avoided through reduction of vulnerability and exposure. (Katharine Mach, IPCC WGII TSU)	We revised the paragraph, and the sentence including "avoid" was deleted.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
87	38249	15	3	45	3	47	Executive Summary. "Adaptation planning and implementation is considered as a social learning process to formulate efficient plans, which allows periodical adjustments in order to reduce the uncertainty of the impacts of climate change and societal needs to cope with them (high agreement, medium evidence)." Question: Is it possible to indicate in which areas (urban or rural) such a social learning process is more efficient? And for which population (indigenous or non-indigenous peoples)? (Abdalah Mokssit, Direction de la Météorologie Nationale (DMN))	Social learning is dealt with as a generic concept here, while it is considered to be important for a wide range of people and sectors.
88	52870	15	3	46	3	46	Not just reducing uncertainties, but also interventions respond (i.e. may change) in response to reduced uncertainties - i.e. as understanding increases some measures may be given less priority and others greater priority; also may have a change in overall effort given to adaptation (John Hay, University of the South Pacific)	Social learning is discussed as a generic concept here. More detailed discussions will be incorporated if literatures are found.
89	41594	15	4	0	4	0	A conclusion that is missing is that the devision of responsibilities for climate adaptation within the public realm and between public and private actors is still unclear. Furthermore, there are already som examples (case studies of successful adaptation projects, especially in the field of water management). (Peter P.J. Driessen, Utrecht University)	Devision of responsibility issue is included in the third paragraph of revised ES.
90	35598	15	4	9	0	11	it would be very helpful to policymakers to have a more detailed discussion of these decision techniques and how they are applied in the climate context. (Daniel Farber, UC Berkeley)	The detailed discussion is given in 15.2.4.
91	44865	15	4	10	4	12	Seems odd to throw one specific example when this covering the world (Joel Smith, Stratus Consulting Inc.)	Deleted.
92	44866	15	4	17	4	18	But the status quo does require maintenance and replacement. I don't get the point about being more profitable – in many cases that is not true. Indeed, what does "profitable" mean? (Joel Smith, Stratus Consulting Inc.)	"Profitable" is used as to reduce cost compared with development cost for new technologies particularly in the short term.
93	41377	15	4	18	4	18	This sentence seems to indicate that there is currently no need for the development of new climate resilient technologies. I think this is the wrong approach and would prefer to also write that a continuously development of technologies should be pursued. This is also said on page 26, line 24-25. (Sven Harmeling, Germanwatch)	It is said that status quo can be used to reduce cost particularly in the short term. We will make more precise statement in the next revision.
94	53078	15	4	18	4	18	But is the status quo effective? (Kristie L. Ebi, IPCC WGII TSU)	It is said that status quo can be used to reduce cost particularly in the short term. We will make more precise statement in the next revision.
95	44867	15	4	22	4	30	Discussion should be more general, not just about 2 cases. (Joel Smith, Stratus Consulting Inc.)	We deleted the paragraph following the revision of ES.
96	49097	15	4	22	4	30	Please consider to include a section in the Executive summary regarding perception of risk in poor and low income communities; cut from 15.4.3.1 last sentence page 30, line 37-39: "Greater exposure to vulnerability is often accompanied by a deficit of adaptive capacity, because poorer, less educated populations tend to have less access to information about climate risks, and fewer economic and technical resources available." (Oyvind Christophersen, Climate and Pollution Agency)	We deleted the paragraph following the revision of ES. The raised perception is partly included in other paragraphs of the new ES.
97	52871	15	4	22	4	30	Communication risk effectively also requires the active engagement of the providers of risk information (John Hay, University of the South Pacific)	We deleted the paragraph following the revision of ES. Risk-communication is discussed in 15.2.4.2 though limited.
98	35128	15	4	32	0	40	I would like to see an extension in the arguments for what the significant barriers are as not only the vertical interplay currently described pose problems but also the horisontal interplay/lack of learning across administrative/other units (often referred to in the chapter also but not in the summary). Several studies have also highlighted barriers due to conflicting political priorities where climate change is one of several concerns e.g in a municipality as something that strongly restricts current adaptations which I think deserves a more stronger emphasis in the summary (and the chapter at large). More references supporting this are given in later comments. (Sofie Storbjork, Linkoping University)	The raised point was included in the revised paragraph..
99	41433	15	4	32	4	40	the institutional coordination is further complicated when it comes to integrated approaches of mitigation and adaptation; at the same time such integration can also enhance synergies (Sven Harmeling, Germanwatch)	Thnak you for the comemnt.
100	47450	15	4	32	4	40	The summary here is not sufficiently grounded in the section to which it refers (15.4.2). Should it refer to 15.4.1 instead? If not, there is a need to discuss interrelations between governance levels and sectors in section 15.4.2. Doing so, it would be important to note constraints on multiscalar governance, deriving from unclear jurisdictions, unequal power relations, differences in the discourses circulating at the different scales. Oran Young's article "Vertical Interplay among Scale-dependent Environmental and Resource Regimes", Ecology and Society, 11(1): 27, could be useful. Note that there is an overlapping discussion in 16.4.2.3. (Håvard Haarstad, University of Bergen)	The raised point was included in the revised paragraph..
101	49098	15	4	41	4	41	To highlight cross-sector coordination and the beneficial opportunities that lies in such approaches. Please consider to include a section in the executive summary, such as; "Linking climate change risks to systems and sectors, and the corresponding response planning and implementation actions occurring at different spatial and temporal scales, requires cross-coordination. Multilevel governance offers the chance to identify options for switching from reactive to proactive adaptation processes which are essential in safeguarding investments and infrastructures especially in urban adaptation. [15.5]", cut from 15.5.1. (Oyvind Christophersen, Climate and Pollution Agency)	The raised point was included in the revised paragraph with a different form.
102	41425	15	4	43	0	0	it would be good to add the conclusions from the AR4, to indicate what this chapter does beyond the AR4 assessment and also what has changed since AR4. (Sven Harmeling, Germanwatch)	This is not included in ES, but we set a new section 15.5 Research Needs for Maximizing Opportunities in SOD.
103	42985	15	4	46	4	47	This appears to be a blanket statement that would warrant differentiation. The severity of climate change impacts on marginalised communities is not only dependent on their adaptive capacity but to a significant extent on their exposure to climate related hazards. The risks to residents and their properties in a flood prone urban development area for example can only to some extent be mitigated by increasing their adaptive capacities. A more effective adaptation response would be to restrict development in such areas and thereby reduce exposure to the hazard. (Hartmut Fuenfheld, RMIT University)	Thank you for the comment. As this is the introduction and the points raised are well expressed in many parts of the subsequent sections, we leave the present sentence..

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
104	35129	15	4	48	0	52	Here the argumentation needs to be seen in light of the first point in the summary (p 2 line 29-31) as it in the introduction is rather assumed that national level plans are a tool for developing countries whereas the summary point suggest the opposite (even if the introduction speaks specifically of NAPAS as one form of national plans). But these two lines of argumentation needs to be made more coherent/nuanced. (Sofie Storbjork, Linkoping University)	We revised that part of Introduction.
105	35130	15	4	48	0	52	I would also suggest that the first introductory lines not only mention national level initiatives but instead make it clear from the start that climate adaptation are policy and implementation processes that can take place on different levels and by different instruments/approaches where NAPAS are one of several ways. Perhaps also directly say that we in some countries fins a number of local/sub-national activities even without coherent national policies (strengthening the point that climate adaptation can be initiated at different levels in society) (Sofie Storbjork, Linkoping University)	We revised that part of Introduction.
106	46086	15	4	49	4	49	NAPAS were previously discussed in Chapter 2, line 40, page 31 to line 25, page 32.as well as in Chapter 14, page 26 line 12 to page 27, line 6. (Luis E. Garcia, World Bank)	modified text for NAFTAs included in page 10 -45
107	53079	15	4	49	4	52	This overlaps with chapter 14. (Kristie L. Ebi, IPCC WGII TSU)	Text has been changed to avoid the overlap
108	37160	15	5	0	0	0	Suggest to include one bullet considering type of data and information needed/available for modelling and planning. (Angela Andrade, Conservation International Colombia)	text has been modified
109	35637	15	5	22	0	0	These approaches should not be discussed together, as they are derived from different perspectives. Community-based refers to the actors of adaptation (as opposed to households, local or national governments), and low-regret is often a criterion for selecting an appropriate option. Climate-proofing is an approach to explicitly incorporate climate factors in the design of an adaptation measure. (Norio Saito, Graduate School of Science and Engineering, Ibaraki University)	suggestion has been taken into account
110	41378	15	5	22	5	23	Please add ecosystem approach to the list of approaches named. (Sven Harmeling, Germanwatch)	suggestion has been taken into consideration
111	41181	15	5	25	5	29	Section 15.1 pg 5 line 25-29 – to avoid confusion and potential overlap with the opportunities and constraints discussion in Ch 16, I would clarify this bullet, indicating how the information under barriers and opportunities in Ch15 differs from that of Ch 16 (i.e. focused on specific barriers and opportunities associated with implementation and planning). (Susan Evans, WWF-Canada)	we modified the text and left the discussion on barriers to chapter 16
112	43418	15	5	25	5	29	One of the key barriers is the time-synchronisation between the actual time of the adaptation planning and activities therein and the time period requirement on ground when such an activity should be done. Often adaptation planning whether done by donor projects or by the state administration do not match with e.g. cropping season or required timing for making a water storage construction/or plantation. However administration either still does the job (e.g. causing predestined plantation failures) to show funds have been spent or has no funds because timing of the budget year is such that funds are already consumed. The key issue here is that of synchronising adaptation planning with actual timings of requirement on ground. This also means schynchronising the horizontal and vertical levels of planning so that adaptation is planned and implemented on time to deliver impacts. We have to have a separate focus on traditional institutions such as tribals as there structure, norms, and scope to adapt is very limited e.g. a men dominated institution where women have no role in decisionmaking on natural resource management though women have greater role in it in practical terms (e.g. tribal institutions in the northeast India) (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	no action needed
113	53080	15	5	27	5	27	Chapter 16 covers barriers to adaptation. (Kristie L. Ebi, IPCC WGII TSU)	Chapter 16 will address the issue of barriers
114	43419	15	5	30	5	36	Here two points need further highlighting: First is the use of capacity development systems rather than only capacities as a wide range/levels of governance is involved as stakeholderhip is diverse; Secondly, we have to highlight capacity development systems especially to address adaptation needs of key focus groups (women, marginalized, poor, ethnicities etc. ) as it is now clear that these are the most vulnerable populations and often intermediary organisations/service providers are not capacitated enough to handle such groups or generate enough response on ground to treat these groups (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Text has been modified to also include capacity development systems
115	43420	15	5	37	5	39	We need to be more specific on pinpointing governance at which levels and better to be explicit on community, service delivery, research and development, policymakers...etc. since governance quantum, quality and specificities vary across vertical and horizontal levels (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	no action needed
116	54629	15	5	39	5	39	The author team may consider changing 'levels of governance' to 'forms of governance'. (Monalisa Chatterjee, IPCC WGII TSU)	no action needed
117	35131	15	5	41	0	0	A brief introduction to the concrete chapter outline should follow the current list of key points (p 5 lines 15-39) as a good bridge between the introduction and following sections. (Sofie Storbjork, Linkoping University)	text has been modified
118	54630	15	5	44	5	44	The author team may consider changing 'gray literature' to 'non journal literature'. (Monalisa Chatterjee, IPCC WGII TSU)	done
119	41379	15	5	44	6	6	To me this paragraph sounds a bit too sceptic about adaptation planning and its already accomplished targets. There are already many good examples from different parts of the world that document that climate change adaptation can be put into practice with very positive effects, on the technical as well as on the societal side. (Sven Harmeling, Germanwatch)	the new draft recognizes that adaptation plans have been created in several parts of the world but it also recognizes that the literature, particularly the peer reviewed literature recognizes the evaluation of the success of these plans needs more time and analysis.
120	35132	15	5	45	0	49	this should be nuanced (see comment 1 above) (Sofie Storbjork, Linkoping University)	we modified the content of the chapter in an effort to make it more coherent and better integrated
121	44868	15	5	49	5	49	Does "positive" mean increasing or good? (Joel Smith, Stratus Consulting Inc.)	It was used to mean good in this sentence



#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
122	42986	15	5	49	5	50	This sentence and the following ones seems to suggest that there may be an issue with a lack of critical reflection and reporting on adaptation planning in the grey and peer-reviewed literature. However, it can be argued that there are many reasons why 'it is not clear yet how effective those responses currently are and will be in the near future'. For example, many adaptation planning processes evidenced in the literature are only just moving beyond the initial planning and assessment stages and entering the stage of implementing adaptation measures. Another reason is likely to be that many of the benefits of adaptation cannot be evaluated until at some point in the future (e.g. when the next extreme weather event occurs). It may be useful to the reader to briefly mention some of the reasons as to why effectiveness of actions cannot be verified in many cases - and that this may not only be the case because of a lack of critical analysis. This comment also applies to chapter 15, page 11, lines 42-45. (Hartmut Fuenfgeld, RMIT University)	Thank you for this good suggestion. We tried to incorporate this suggestion in page 6 line 4- 27.
123	35133	15	5	50	0	0	Here the articles by Eriksen S. H. et al 2011 "When not every response to climate change is a good one: Identifying principles of sustainable adaptation", Climate and Development 3, pp 7-20, Brown, K. 2011 "Sustainable adaptation: An oxymoron? Climate and Development 3, pp21-31 and Eriksen, S.H. and O'Brien, K. (2007), 'Vulnerability, poverty and the need for sustainable adaptation measures', Climate Policy, vol 7, pp337-352 could be used. They discuss the consequences of adaptation policies and recognise that not every adaptation is good also raising the question good for whom (issues of social justice and environmental integrity) using case-studies from different national contexts. (Sofie Storbjork, Linkoping University)	Thank you for your suggestion. We planned to include the review of these references in the text. It was an oversight that they are not included in the current version of the SOD. We will make sure they are included in the next draft.
124	43421	15	5	50	5	50	It is also difficult to measure whether we have addresses adaptataion or not as in the early phase of NAPAs etc. we did not develop adaptation metrics to be monitored and raheer relied on generic M&E systems to provide data on what is achieved and what not? (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	The issue of evaluation metrics is briefly mentioned in this chapter but it is also addressed in more detail by chapter 16.
125	44869	15	5	50	5	52	Good point (Joel Smith, Stratus Consulting Inc.)	No action needed
126	44400	15	6	0	0	0	When preparing the SOD there should be more assessment of the literature, as it stands now it is more of a review. (Linda Sygna, University of Oslo)	We have modified the text of the chapter to reflect this suggestion. We agree the chapter should reflect an analytical review of the literature
127	35134	15	6	1	0	6	This is a very important conclusion for this chapter that perhaps could be explicitly highlighted in the summary part on social learning. i.e. adaptation is not a problem free process recognising the complexity of adaptation planning. Perhaps it would be relevant to note that this question of implementation has been a vital and ongoing research area in political science since the 1970's, referring to e.g Pressman, J.L. and Wildavsky, A.B., 1984. Implementation: how great expectations in Washington are dashed in Oakland : or, why it's amazing that federal programs work at all, this being a saga of the Economic Development Administration as told by two sympathetic observers who seek to build morals on a foundation of ruined hopes. 3rd ed. Berkeley: University of California Press. (Sofie Storbjork, Linkoping University)	Thank you for your comment. We agree this conclusion needs to be highlighted. We did not followed up on the issue of implementation due to the very limited space we have available for this chapter.
128	47753	15	6	1	6	6	These sentences make a great point that is largely lacking in the literature. I just wanted to add my support and encourage it be included in the final draft. The presentation of adaptation planning in the literature as a panacea to all climate problems is simplistic and may negatively impact adaptation planning efforts as expectations over the simplicity may lead to delayed efforts to begin planning and implementation. (Eric Toman, The Ohio State University)	Thank you for your support. We will make sure this sentese is included in the final draft.
129	42987	15	6	3	6	4	The literature also points to the complexities and realities of institutional change, social learning and transformation. These processes may be considered subsets of 'adaptation as a social process' but seeing the recent attention given to adaptation in organisations and institutional change (e.g. Berkhout 2012, Moser and Ekstrom 2010), it may be useful to include reference to this aspect of complexity. (Hartmut Fuenfgeld, RMIT University)	The issue of complexity is addressed is addressed in more detail in the analysis of the barriers to adaptation in chapter 16.
130	48918	15	6	3	6	4	risk of underestimating the complexity of adapt'n planning as a social process - agree entirely - may wish to include the complexity in psychological and economic decision making processes (Leon Soste, Department of Primary Industries, Victoria, Australia)	Thank you for your comment. We are skeeing to find the space to include your suggestion in the next draft.
131	47754	15	6	9	0	0	Section 15.2.1 - The information presented in this section is quite good. I suggest including some subsections to help organize things and make the text more accessible. (Eric Toman, The Ohio State University)	The text has been reorganized to make it more accesible
132	54631	15	6	9	0	0	The author team may wish to incorporate subsections to organize and highlight several key subtopics discussed in this section (e.g. planning structures & operational culture, importance of context, learning proces, etc.,) (Monalisa Chatterjee, IPCC WGII TSU)	The text has been reorganized to make it more accesible
133	43422	15	6	18	6	24	Also in several developing countries some local adaptation plans have been prepared. However these are often prepared from donor money and are not different from more-or-less regular public investment activities and have deficient databases. The national governments in developing countries have neither resources nor capacities to plan for adaptation, these have yet to distinguish between adaptation and non-adaptation, and preparatory processes are hardly consultative (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you fro your comment. We analyzed the literature available on adaptation in developing countries.
134	44870	15	6	26	6	39	Excellent analysis (Joel Smith, Stratus Consulting Inc.)	No action needed
135	54632	15	6	26	6	39	The author team may coordinate with chapter 14 on a framework to explain the translation of findings from studies using vulnerability approach into the risk management framework. (Monalisa Chatterjee, IPCC WGII TSU)	This coordination has been carried out

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
136	45078	15	6	33	0	37	See also UK Climate Adaptation Sub-Committee Progress Reports 2011 & 2012 (via <a href="http://www.theccc.org.uk">www.theccc.org.uk</a> ) - evidence that exposure is actually getting worse in terms of houses in harm's way, and little sign of actual investment decisions (as opposed to panning) by organisations that should be taken a long time view. Also, see evidence in Gardner et al 2010 (and follow up report, both due for journal submission soon) - Gardner, J., Parsons, R., and Paxton, G. (2010). 'Adaptation benchmarking survey: initial report.' (CSIRO Climate Adaptation Flagship Working paper No. 4: Brisbane.) ( <a href="http://www.csiro.au/resources/CAF-working-papers.html">http://www.csiro.au/resources/CAF-working-papers.html</a> ) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Part of this discussion is included in chapter 14 (obstacles to adaptation)
137	35752	15	6	36	6	36	Insertion of this information may further enhance the clarity of the content. "Despite a growing body of research and more stringent regulations for the design and operation of industrial activities, Natech accidents remain a threat (Krausmann and Baranzini, 2009; Krausmann, 2010; Krausmann et al., 2011). The standard risk management procedure does not cover the special recommendations for Natech risk assessments (Warm and Koppe, 2007; Krausmann et al., 2011). The methodologies and tools for the assessment of Natech risk are scarce, and only limited (Antonioni et al 2007, Cozzani et al. 2007). (Jitendra Desai, Reliance Industries Limited)	This is a detailed discussion on risk management. It was not included in the SOD due to the limited space available to address adaptation planning and implementation in this chapter
138	41595	15	6	37	6	39	I think that in the recent years a lot of case studies have been published of successful and unsuccessful adaptation plans and projects. Currently a lot of studies are being carried out on climate change adaptation action (see for instance the Dutch Knowledge for Climate research program, the German Klimzug program, the Austrian Climate and Energy program and the Baltic climate change program. (Peter P.J. Driessen, Utrecht University)	The section seek to analyzed what it is reported in the literature and not an inventory of existing adaptation plans
139	35135	15	6	39	0	0	Perhaps conclude this section that the connection between plans/strategies and practical implementation is thus far from clearcut. Perhaps also state that the reasons for this "gap" (i.e. barriers) will be discussed in section 5.3 and/or 5.4. (Sofie Storbjork, Linköping University)	Thank you. It was discussed but not considered essential.
140	35136	15	6	41	7	4	Here I lack key references to e.g. the double exposure and integrated vulnerability assessment frameworks for analysing vulnerability where the interplay between socioeconomic stress and climate change is targeted. see e.g. O'Brien & Leichenko 2000 Double Exposure: assessing the impacts of climate change within the context of economic globalization, Global Environmental Change 10, 221-232, O'Brien, Leichenko and Kelkar (2004), Mapping vulnerability to multiple stressors: climate change and globalization in India. Global Environmental Change 14, 303-313, Fussler and Klein 2006, Climate Change vulnerability assessments: an evolution of conceptual thinking. Climatic Change 75, 301-329, Hjerpe & Glaas (2012), Evolving local climate adaptation strategies: incorporating influences of socio-economic stress. Mitigation and Adaptation Strategies for Global Change 17, 471-486. (Sofie Storbjork, Linköping University)	We revised 15.2.1 including relevant references.
141	47191	15	6	41	7	4	When considering social dimensions of adaptation planning, it is important to point out that inappropriate policy, planning and implementation may diminish the traditional adaptive capacities rooted in community-based responses to climate variability. For example, the diversity of crop varieties that small-holder farmers maintain in their fields ensure production under a variety of environmental conditions, thus managing risk in the face of unpredictability. State policies promoting introduced hybrid monocultures may undermine this local adaptive capacity. Similarly, the adaptive capacity of many nomadic pastoral peoples is in part anchored in their ability to access reserve pastures in years of drought. Policies that direct those less-used fall-back pastures to other land uses (national parks, agriculture, industrial development, urban expansion etc.) gravely diminish the capacities of pastoral peoples to respond to climate change. In other words, it is important to recognise the traditional adaptive strategies and needs of local communities so as to avoid inadvertently setting in place policies conflict with them (Roué In prep; Nakashima et al. 2012). Nakashima, D.J., Galloway McLean, K., Thulstrup, H.D., Ramos Castillo, A. and Rubis, J.T. 2012. Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation. Paris, UNESCO, and Darwin, UNU, 120 pp.; Roué, M. In prep. 'Normal' catastrophes or a harbinger of climate change? Reindeer-herding Sami coping with disastrous winters in northern Sweden, In: Indigenous Knowledge and Changing Environments. Paris, UNESCO Publishing. (Douglas Nakashima, UNESCO)	Issues of local and traditional knowledge have been addressed in section 15.3.2.7 on page 27
142	37015	15	6	41	7	22	Please avoid stringing studies together. This may be customary in some fields of social sciences, but the text will be much shorter and easier to apprehend if you deliver the message followed by a citation instead of "X wrote this, Y wrote something slightly different, Z added only a little tidbit, ...". Please check the entire chapter in this regard, these two paragraphs were just standing out. (Joachim Rock, Johann Heinrich von Thunen-Institute, Federal Research Institute for Rural Areas, Forestry and Fisheries)	Thank you for your comment.
143	43423	15	6	48	6	50	The truth is that often activities which we see externally as climate change adaptation or autonomous adaptation is actually a management response to scarce, depleted or threatened resources. Too much and too little water study of ICIMOD shows how water resources are to be governed better. ICIMOD 2009 Local Responses to Too Much and Too Little Water in the Greater Himalayan Region. ICIMOD. <a href="http://www.books.icimod.org/uploads/tmp/icimod-local_responses_to_too_much_and_too_little_water_in_the_greater_himalayan_region.pdf">http://www.books.icimod.org/uploads/tmp/icimod-local_responses_to_too_much_and_too_little_water_in_the_greater_himalayan_region.pdf</a> (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you for your comment
144	43424	15	7	1	7	4	Adaptation planning is increasingly using an integrated approach of community science and remote sensing science leading to a much more organised analysis of how ecosystem degradation when overlapped by climatic variability is causing huge challenge to adapt to e.g. water scarcity, and local populations are planning accordingly. (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you for your comment
145	45455	15	7	3	7	4	For an example of a guide for helping to incorporate community values into adaptation planning, see UN-Habitat Cities and Climate Change Initiative. 2011. "Planning for Climate Change: A strategic, values-based guide for urban planners", accessible at <a href="http://www.unhabitat.org/ccci">www.unhabitat.org/ccci</a> , under 'publications'. (Rafael Tuts, United Nations Human Settlements Programme)	This references has been added to the draft line 16 page 12.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
146	41596	15	7	4	7	4	See also: Termeer et al. (2011). The regional governance of climate adaptation: a framework for developing legitimate, effective and resilient governance arrangements, <i>Climate Law</i> 2: 159-179. (Peter P.J. Driessen, Utrecht University)	Thank you. We are considering the best section to include this reference
147	35137	15	7	6	0	22	Here I lack key references to e.g. Eriksen, S.H. and O'Brien, K. (2007), 'Vulnerability, poverty and the need for sustainable adaptation measures', <i>Climate Policy</i> , vol 7, pp337-352, Ulstrup, K. et al (2008) More than rain: Identifying sustainable pathways for climate adaptation and poverty reduction, The Development Fund, Oslo (Sofie Storbjork, Linkoping University)	These are two valuable references, thank you. Due to an oversight they were not included in the SOD but we will make sure they will be part of the final document.
148	43425	15	7	6	7	22	It is also about quality of planning when it comes to whether such bottom-up mechanisms allow development agents to actually analyse the vulnerable groups (more than often not!). So even if local governments have good planning experience, by its structure and the way service delivery operates, adaptation needs of key groups get skewed analysis. On the top of it, adaptation can be addressed only through integrated approach that needs convergence of service delivery from planning to implementation and M&E, which at least in developing and poor countries is still a huge challenge. All institutions more or less parallel to each other than with each other. This certainly is not planning deficit but more how reform processes (e.g. devolution, deconcentration) are pursued applied and performances of service delivery institutions measured (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you for your comment. Our analysis is based on what the literature reports. We will appreciate if you could suggest a reference that reflects the points you mention in your comment.
149	44871	15	7	6	7	22	Agreed. But on the flip side, a concern is that these issues will dominate climate change – and climate change will be forgotten in the process. The challenge is getting the right balance. (Joel Smith, Stratus Consulting Inc.)	Thank you for your comment. We will continue to review this issue in the preparation for the next draft in order to figure out the best way to address this issue without becoming prescriptive
150	42990	15	7	7	7	9	Another recent initiative that promotes considering climate change adaptation in urban planning is UNISDR's Making Cities Resilient campaign. This could be included here for completeness (noting it is included elsewhere in the report). (Hartmut Fuenfgeld, RMIT University)	This reference will be included in the next draft of the chapter
151	54633	15	7	16	7	17	This seems like a key finding and author team may wish to highlight it as a subsection. (Monalisa Chatterjee, IPCC WGII TSU)	Thank you. Your suggestion has been taken into account
152	35753	15	7	25	7	25	Not only the capacity of the institutes but also their linkages to have an integrated planning response. The sentence may be rewarded to incorporate this point. (Jitendra Desai, Reliance Industries Limited)	Thank you. Your suggestion has been taken into account
153	41182	15	7	31	7	34	Section 15.2.1 pg 7 line 31-34 – agree with this statement but again this type of commentary throughout this chapter has not been sufficiently linked to the social-ecological literature, which is a well established. Therefore I don't agree with the next sentence that indicates this is an emerging field, either clarification or correction is needed. This also applies to Section 15.3.1.3 pg 17 line 4 where this sentence is repeated. (Susan Evans, WWF-Canada)	Thank you. Please remember we are assessing the literature available. If you would like to recommend a particular article or publication, we will be happy to consider it.
154	48919	15	7	31	7	34	Suggest in addition to 'interdisciplinary science field', consider the concept of transdisciplinarity (Weik & Walter, <i>European Journal of Operational Research</i> , Volume 197, Issue 1, 16 August 2009, Pages 360-370) which adds the perspectives and knowledge of on-ground stakeholders to an interdisciplinary approach. For an example of work in this area see <a href="http://vro.dpi.vic.gov.au/dpi/vro/gbbregngn.nsf/pages/gb_lwm_fwm_irrig_futures">http://vro.dpi.vic.gov.au/dpi/vro/gbbregngn.nsf/pages/gb_lwm_fwm_irrig_futures</a> . The example also links to spatial planning at the local level (p24, lines 1-9) (Leon Soste, Department of Primary Industries, Victoria, Australia)	Thank you for your suggestion. This reference will be considered in the preparation of the next draft.
155	35138	15	7	42	0	49	Similar conclusions on the difficulties of facilitating a necessary cross-sectoral/horizontal coordination and learning in a way that currently hampers climate adaptation initiatives is found in Norway (Næss, L. O. et al, 2005. Institutional adaptation to climate change: Flood responses at the municipality level in Norway. <i>Global Environmental Change</i> 15, 125-138.), Denmark (Hedensted Lund, D. et al (2012), Climate change adaptation in Denmark: enhancement through collaboration and meta-governance. Local environment, in press.) and Sweden (Storbjork, (2010), "It takes more to get a ship to change course. Barriers for organisational learning and local climate adaptation in Sweden", <i>Journal of Environmental Policy and Planning</i> Vol. 12, No. 3, 235-254. Glaas, E. et al, 2010. Managing climate change vulnerabilities: formal institutions and knowledge use as determinants of adaptive capacity at the local level in Sweden. <i>Local Environment</i> 15, 525-539.), Canada (Wall, E. and Marzall, K., 2006. Adaptive Capacity for Climate Change in Canadian Rural Communities. <i>Local Environment</i> 11, 373-397.), The US (Moser, S., 2005. Impact assessments and policy responses to sea-level rise in three US states. <i>Global Environmental Change</i> 15, 353-369.), The UK (Wilson, E., 2006. Adapting to Climate Change at the Local Level: The Spatial Planning Response. <i>Local Environment</i> 11, 609-625.) (Sofie Storbjork, Linkoping University)	Most of these references were added in section 15.3.1 on page 21.
156	35139	15	7	45	0	0	The correct wording should be Strategic Environmental Assessments (SEA). (Sofie Storbjork, Linkoping University)	Text has been corrected
157	48920	15	7	51	7	53	lack a formal (inter) institutional framework - interesting - highlights the fact that even countries with strong (individual) institutions need processes for coherent institutional planning & action (see above ch 14, p12, lines 26/27) (Leon Soste, Department of Primary Industries, Victoria, Australia)	Thank you for your comment
158	35140	15	7	53	0	0	Glaas, E. et al, 2010. Managing climate change vulnerabilities: formal institutions and knowledge use as determinants of adaptive capacity at the local level in Sweden. <i>Local Environment</i> 15, 525-539 in their study on local climate adaptation in two Swedish cities have also particularly looked at the formal institutional frameworks. (Sofie Storbjork, Linkoping University)	The section was largely revised and we did not include the literature.
159	35141	15	8	3	0	4	Since the organisation of climate adaptation clearly is an issue to consider it would be interesting with some examples of what changes Biesbrok are referring to. It it (like several other references point at ) the cross-sectoral/horizontal approaches or other? (Sofie Storbjork, Linkoping University)	We could not understand this comment

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
160	43426	15	8	7	8	11	However, there is also the third trend that climate modeling making projections as the key technical tool to plan adaptation. Lots of donors in developing countries and especially researchers are putting stress on climate projection as the key to plan. This is causing a skewed planning approach as database for such models is limited and especially in mountains downscaling of climate models has very limited value for adaptation planning since microclimates are heterogeneous at smallest spatial scales (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you for your comment
161	54634	15	8	7	8	11	The author team should provide all references to support this paragraph. (Monalisa Chatterjee, IPCC WGII TSU)	The text of this section has been modified and the paragraph has been removed
162	35142	15	8	13	0	26	Despite the identified need for revising and rethinking current working practices, several international studies report on signals of inertias and missed opportunities for interaction, knowledge exchange and learning that hamper current adaptation practice (Winsvold, M. et al (2009), Organizational learning and governance in adaptation in urban development, in Adger, N. W., Lorenzoni, I. & O'Brien, K. (Eds), Adapting to Climate Change. Thresholds, Values, Governance, pp. 476-490 (Cambridge University Press); Pelling, M. et al, D. (2008), Shadow spaces for social learning: a relational understanding of adaptive capacity to climate change within organisations, Environment and Planning A, 40, pp. 867-884.; Næss, L-O, et al (2005), Institutional adaptation to climate change: Flood responses at the municipality level in Norway, Global Environmental Change, 15, pp. 125-138.; Storbjörk (2010), "It takes more to get a ship to change course. Barriers for organisational learning and local climate adaptation in Sweden", Journal of Environmental Policy and Planning Vol. 12, No. 3, 235-254; Ivey, J. L. et al (2004), Community Capacity for Adaptation to Climate-Induced Water Shortages: Linking Institutional Complexity and Local Actors, Environmental Management, 33, pp. 36-47. (Sofie Storbjörk, Linköping University)	Thank you for your comment. We agree these are valuable references to be added to the text. It was an oversight from our part not to include them in the SOD but we will make sure they will be part of the next draft.
163	44401	15	8	13	0	26	The discussion on learning could probably be made more broad to include anticipatory learning, adaptive learning, generative learning, transformative learning. (ref to consider Pelling, M., C. High, J. Dearing, and D. Smith. 2008. Shadow spaces for social learning: a relational understanding of adaptive capacity to climate change within organisations. Environment and Planning A 40: 867-884; Tschakert, P., K. Dietrich. 2010: Anticipatory learning for CC adaptation and resilience. Ecology & Society 15 (2),11.). Is learning explicitly dealt with in any of the other adaptation chapters? (Linda Sygna, University of Oslo)	The text of this section has been modified to make it coherent with the rest of the chapter. We have very limited space to include many contributions but we believe learning is an important element of the planning process and we will seek to expand this discussion in our review of the SOD. Your points will help us in our review.
164	43427	15	8	13	8	26	There is a major dilemma here. A majority of the local institutions/NGOs are actually responding to new funding sources by changing their vision, expertise at will (that is without having any background!) while claiming adaptation expertise. On the other hand, donor/state funds have to be spent within a given timeframe so that compromises of timely target achievement, indicator fulfillments and impact stories to get more funds do not allow for integrated adaptation planning Therefore, the learning process potential is curbed right in its inception. (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	We could not find literature documenting this point. We would appreciate if you could suggest specific references.
165	50872	15	8	14	8	14	"likely" – If this term is being used per the uncertainties guidance for authors (reflecting a probabilistic basis for its assignment), it should be italicized. The author team should avoid casual usage of this reserved likelihood term. (Katharine Mach, IPCC WGII TSU)	The text has been modified and this sentence eliminated.
166	43428	15	8	28	8	40	The research work on so called "Adaptation Metrics" rather than common M&E practices is on. ICIMOD along with a regional project with IGES-Institute for geographic and environmental sciences and other regional partners in South Asia is exploring the use of such metrics in agriculture sector. The process is that of validating the pre-selected indicators with local farmers and then measuring which adaptation activities were opted for as priority. The stress is also laid on disaggregated data, which often M&E systems do not capture. This is important as adaptation planning needs a special focus on women, poor and other marginalised group so far as mountains are considered. However issue of baselines is still a grey area. (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	We would appreciate if you could provide concrete reference to address this point.
167	41183	15	8	28	8	51	Section 15.2.1 pg 8 line 28-51 – This appears to overlap with section 14.6.3.3, (Susan Evans, WWF-Canada)	Text has been modified to avoid this overlap
168	46087	15	8	28	9	9	This seems repetition of what was already discussed in Chapter 14. (Luis E. Garcia, World Bank)	Text has been modified to avoid this overlap
169	35143	15	8	30	0	0	Perhaps give some indication of what these simple evaluation criteria have been (Sofie Storbjörk, Linköping University)	Thank you, we will seek to find a concrete example
170	35144	15	8	35	0	40	I am a bit uncertain about the three points mentioned as they sound more like a proposed route for climate adaptation rather than an assessment of adaptation plans/practices as the final step is "develop strategies". Is this a framework for action or evaluation of strategies/action? How and against what criteria can the three steps be assessed? (Sofie Storbjörk, Linköping University)	This is cited as a framework for action and not evaluation. The text has been modified
171	37349	15	8	37	0	38	Please give some examples for the aspects that cannot be simulated with quantitative methods. (So Kazama, Tohoku University)	We report the different perspectives of the literature
172	37161	15	8	40	0	0	Suggest considering IUCN publication: Andrade, A.; Córdoba, R.; Dave, R.; Girot, P.; Herrera, F.B.; Munroe, R.; Oglethorpe, J.; Paaby, P.; Pramova, E.; Watson, J.; Vergara, W. Draft principles and guidelines for integrating ecosystem-based approaches to adaptation in project and policy design: a discussion document; Centro Agronomico Tropical de Investigacion y Enseñanza (CATIE): Costa Rica, 2011. Serie Técnica No. 46. Andrade, A, Córdoba, R, Dave, R, Girot, P, Herrera-F, B, Munroe, R, Oglethorpe, J, Pramova, E, Watson, J, Vergara, W. 2011. Draft Principles and Guidelines for Integrating Ecosystem-Based Approaches to Adaptation in Project and Policy Design: A Discussion Document. CEM/IUCN, CATIE. Kenya. <a href="http://www.iucn.org/about/union/commissions/cem/cem_resources/other_cem_publications_and_papers/?uPubsID=4523">http://www.iucn.org/about/union/commissions/cem/cem_resources/other_cem_publications_and_papers/?uPubsID=4523</a> (Angela Andrade, Conservation International Colombia)	Thank you. Your suggestion will be considered in section 15.2.3.3 Adaptation, Development, and Ecosystems on page 15.
173	40912	15	8	40	0	0	Suggest adding a discussion about the role of boundary organizations including NGOs to assist with the three steps and as translators between communities and various governmental levels. (Lynn Wilson, SeaTrust Institute)	Thank you for your suggestion. We would appreciate if you could suggest a specific reference addressing this point in the context of adaptation planning and implementation.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
174	53081	15	8	46	8	48	Iterative management could be discussed here. (Kristie L. Ebi, IPCC WGII TSU)	Thank you for your suggestion. We would appreciate if you could suggest a specific reference addressing this point in the context of adaptation planning and implementation.
175	50873	15	8	48	8	48	"likely" -- The author team should avoid casual usage of this reserved likelihood term. (Katharine Mach, IPCC WGII TSU)	Text has been modified to avoid this problem.
176	43429	15	8	53	9	9	We cannot ignore the fact that development on ground is delivered by scores of organisations and almost each working with its own concept. It is virtually imposible to assess local adaptive capacity or response to impending vulnerability especially also due to the reason that planning is often designed/matched/contrived by what can be given or delivered from outside (suiting the development menu) (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you for your comment. Our analysis is based on what the literature reports. We will appreciate if you could suggest a reference addressing this point.
177	37162	15	9	3	0	0	Already mentioned. Make reference to NAPs. (Angela Andrade, Conservation International Colombia)	The text has been modified to add coherence. The discussion on there NAPAs and NAPs has been concetrated on section 15.2.2.2 pn page 9.
178	44402	15	9	4	0	0	Is this correct, that vulnerability is used as a concept to "identify mitigations targets of vulnerability"? Not clear what is meant in this sentence. (Linda Sygna, University of Oslo)	It was a mistake. Thank you for pointing it out. Text has been modified.
179	47697	15	9	4	0	0	I cannot understand the meaning of the following sentence: Hinkel (2010) questions the use of vulnerability as a concept to identify mitigations targets of vulnerability.....scientific research. (Bob Pokrant, Curtin University)	This was a mistake in the edition process. Text has been modified and the paragraph has been deleted.
180	45079	15	9	7	0	0	also Stafford Smith et al. 2011 here perhaps, specifically seeking to establish different approaches for different types of decision/threat/uncertainty combinations (Stafford Smith, M., Horrocks, L., Harvey, A., and Hamilton, C. (2011). Rethinking adaptation for a 4C World. Philosophical Transactions of the Royal Society A 369, 196-216) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	This reference will be added to the text in the next review of the chapter.
181	37701	15	9	9	0	0	Comment 1: I think this section needs a concrete example of operationalizing adaptation and understanding and how the elements interact. Add(?): Sandia National Laboratories undertook a bottom- up study to quantify adaption responses and economic costs for 70 industries in those U.S. states facing changing water availability (Backus et. al 2012). The industries selected from a set of generic technologies to adapt to reduced water supply. Vugrin (Vugrin et al., 2010) developed methods to quantify cost and benefit of adaptation measures for various levels of resilience. An extension of Vugrin's work added uncertainty relevant to assessing resilience in the face of climate change impacts. (Vugrin and Turnquist, 2012). [Vugrin E.D., D.E. Warren, and M.A. Ehlen, 2011: A resilience assessment framework for infrastructure and economic systems: Quantitative and qualitative resilience analysis of petrochemical supply chains to a hurricane. Process Safety Progress, 30(3), 280–290 DOI: 10.1002/prs.10437] (George Backus, Sandia National Laboratories)	Thank you for suggesting these references. We think they will fit better in section 15.2.2.4 on local adaptation plans in page 11 of the SOD. They will be included in the next review of the text.
182	37702	15	9	9	0	0	Comment 2: [Vugrin, E. and M.A. Turnquist, 2012: Design for Resilience in Infrastructure Distribution Networks. Sandia National Laboratories. Report SAND2012-6050 Albuquerque, NM. Available at: <a href="http://www.sandia.gov/CasosEngineering/docs/Vugrin_resilient_design_2012_6050.pdf">http://www.sandia.gov/CasosEngineering/docs/Vugrin_resilient_design_2012_6050.pdf</a> ][ Backus, G., T. Lowry and D. Warren, 2012: The near-term risk of climate uncertainty among the U.S. states. Climatic Change, Online First 23 June 2012. Doi: 10.1007/s10584-012-0511-8] (George Backus, Sandia National Laboratories)	These references will be considered in the next revision of the chapter.
183	41597	15	9	12	9	53	Early this year the EU has launched a platform for supporting the development of adaptation plans (climate-adapt.eea.europa.eu).	Thank you for your suggestion. We would appreciate if you could
184	45080	15	9	18	0	0	See also UK Climate Adaptation Sub-Committee Progress Reports 2011 & 2012 (via <a href="http://www.theccc.org.uk">www.theccc.org.uk</a> ) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Thank you. We will consider these reports in our next review of the text.
185	47755	15	9	20	0	0	This text here that cites Tompkins et al. (2010) is repeated quite frequently throughout this chapter. It is an important finding, but I suggest reducing the redundancy in presentation. (Eric Toman, The Ohio State University)	The text has been modified to avoid this problem.
186	43430	15	9	20	0	20	e.g. instead of whether , it is mixed up with weather, such mistakes are at several places but since the final text will undergo a grammatic and spelling check, I guess that will be taken care of.. (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you.
187	35754	15	9	20	9	20	Insert "The environmental consequences due to the impact of floods in central Europe and of hurricanes Katrina and Rita provided a trigger for Natech risk management in the Europe and US." (Jitendra Desai, Reliance Industries Limited)	Please suggest a reference addressing this issue.
188	42988	15	9	20	9	22	This sentence is a repetition of page 6, lines 33-36. (Hartmut Fuenfgeld, RMIT University)	The text has been modified and this sentence eliminated.
189	35145	15	9	25	0	0	Perhaps just say this is a pending task in many countries rather than only in developing countries? (Sofie Storbjork, Linkoping University)	Yes. The text has been modified.
190	42860	15	9	28	0	0	One of the major reasons accounting for the low rate of implementation of the NAPAs was that in an attempt to be as participatory as possible, most NAPAs resulted in a disperse "wish list" of small investments (some countries listed more than 30). As a result, there was a need to reprioritize investments and appraise them so they would meet the requirements of funding windows. (Sofia Bettencourt, World Bank)	This is an important point. We would appreciate if you could suggest a reference addressing this issue.
191	42861	15	9	28	0	0	A key lesson learned from the NAPAs was that stand-alone adaptation plans often failed because they were not tied to the main economic development processes (e.g. National Development Plans and budgets). Hence, they were easily disregarded and the accumulated capacity lost. Also, susttainability of the NAPA stakeholder platforms was undermined by their dependency on external project funds. This has now been corrected in many countries by decrees institutionalizing CCA/DRR platforms. (Sofia Bettencourt, World Bank)	This is an important point. We would appreciate if you could suggest a reference addressing this issue.
192	54635	15	9	28	0	0	Section 15.2.2.1. The author team may consider adding a timeline figure or schematic diagram to summarize all the international planning decisions taken over time and linkages between them. (Monalisa Chatterjee, IPCC WGII TSU)	A figure has been added to the SOD

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
193	45081	15	9	30	0	53	Duplicates Chapter 14 but more briefly - is this useful? (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	The text has been modified to avoid this problem.
194	46088	15	9	30	9	36	NAPAs were previously discussed in Chapter 2, line 40, page 31 to line 25, page 32, as well as in Chapter 14, page 26 line 12 to page 27, line 6. I think lines 38 to 53 were also previously discussed. (Luis E. Garcia, World Bank)	The discussion of NAPAs has been moved to section 15.2.2.2 on page 9 of the SOD. Reference to NAPAs has been eliminated from Chapter 14.
195	41380	15	9	32	9	32	While in this line it states that 47 countries have submitted NAPAs to date, page 10, line 47 states that there are 45. Please adjust the numbers. Furthermore it has to read "NAPAs", since the NAPAs are a process which has just been initiated under the UNFCCC (see the particularly relevant COP decision from Durban) (Sven Harmeling, Germanwatch)	The text has been modified to address this issue. The discussion of NAPAs has been concentrated in section 15.2.2.2 on page 9 of the SOD.
196	49099	15	9	32	19	47	There is inconsistency in the number of NAPAs in line 32 page 9, and line 47 page 10. (Oyvind Christophersen, Climate and Pollution Agency)	The text has been modified to address this issue. The discussion of NAPAs has been concentrated in section 15.2.2.2 on page 9 of the SOD.
197	41184	15	9	35	9	36	Section 15.2.2.1 pg 9 line 35-36 – I find it odd to have the key lessons from NAPA presented in Ch 14. Consider removing from Ch 14 and adding to this section or further down in Section 15.2.2.2 of Ch 15. (Susan Evans, WWF-Canada)	The text has been modified to address this issue. The discussion of NAPAs has been concentrated in section 15.2.2.2 on page 9 of the SOD. Reference to NAPAs has been removed from chapter 14.
198	53082	15	9	35	9	36	A reference is needed. (Kristie L. Ebi, IPCC WGII TSU)	The sentence has been removed from the text
199	37350	15	9	38	0	39	Meaning is not clear. What is "Another international mechanism"? (So Kazama, Tohoku University)	The text has been modified and this sentence eliminated.
200	45367	15	9	39	0	0	I think even the section in Ch14 is a rough sketch (see comments even above). I guess it is more efficient to first update the section in Ch14, and then improve this section here in Ch15 (Willem Pieter Pauw, German Development Institute (DIE))	The text has been modified to add coherence. The discussion on the NAPAs and NAPs has been concentrated on section 15.2.2.2 on page 9 of the SOD. Reference to NAPAs has been eliminated from chapter 14.
201	37351	15	9	40	0	0	What is GEF stands for? (So Kazama, Tohoku University)	Global Environment Facility
202	45368	15	9	40	0	0	Include 'For example' before starting about the LDCs. The LDCs so far have produced 46 NAPAs, which means that 50-100 developing countries were not served through the LDCF (Willem Pieter Pauw, German Development Institute (DIE))	The text has been modified and this sentence eliminated.
203	53083	15	9	40	9	40	Please define GEF. (Kristie L. Ebi, IPCC WGII TSU)	Global Environment Facility
204	44873	15	9	42	9	44	Be careful about making such judgments. (Joel Smith, Stratus Consulting Inc.)	The text has been modified to address this issue. The discussion of NAPAs has been concentrated in section 15.2.2.2 on page 9 of the SOD.
205	37352	15	9	45	0	0	What is SCCF stands for? (So Kazama, Tohoku University)	The text has been modified and this sentence eliminated.
206	37353	15	9	46	0	0	What is MDB stands for? (So Kazama, Tohoku University)	The sentence has been removed from the text
207	41434	15	9	47	0	0	The reference to the Adaptation Fund does not really fit here. The explicit mandate of the AF is to finance concrete adaptation projects, it does definitely not have a focus on adaptation planning, even if some projects have certain elements of increasing the capacity for planning. Furthermore, the principle of direct access, while an important institutional innovation, has no direct connection with planning for adaptation, since it is primarily addressing issues of fiduciary management. Enhancing planning for adaptation is not an element of the conditions for allowing direct access (Sven Harmeling, Germanwatch)	Thank you for this observation. We agree. The text has been modified and this sentence eliminated.
208	45369	15	9	48	0	0	The direct access is a modality, not a mechanism (Willem Pieter Pauw, German Development Institute (DIE))	The text has been modified and this sentence eliminated.
209	43431	15	10	2	10	2	It cannot be denied that there has been limited coordination between international donors within developing/least developed countries, and also the big money has not come. Now it is even conveyed to these countries to start investing their own funds and then matching funds could come (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you for your comment. No specific action needed at this point.
210	42989	15	10	5	0	0	This section seems to be biased towards the North American context and omits work done in other regions and by numerous international NGOs. For example, CARE, Tearfund and Oxfam have pioneered the development of adaptation planning resources and guidelines and piloted these in various developing countries. Local government networks such as ICLEI have engaged municipalities on all continents in local adaptation planning and published considerable guidance. (Hartmut Fuenfgeld, RMIT University)	This section has been modified. We will expand our references to the work of CARE, OXFAM and other international organizations in our next draft.
211	53084	15	10	5	0	0	This section or a new section should discuss the international organizations such as FAO and WHO. (Kristie L. Ebi, IPCC WGII TSU)	It will be included in our next draft
212	54636	15	10	5	0	0	A table with a collection of examples from diverse regions with brief explanations will be very useful for readers. (Monalisa Chatterjee, IPCC WGII TSU)	We are still considering this possibility
213	47171	15	10	5	20	36	One emerging regional mechanism is the CARICOM Heads approved regional policy instrument, the 'Regional Framework for Achieving Development Resilient to Climate Change'. This will incorporate the three-ones principle consisting of 'One Plan, One Coordinating Mechanism, and One Monitoring and Evaluation Framework.' The One Plan is the Regional Framework and its Implementation Plan, One coordinating mechanism is being put in place as is the one M&E Framework. (Keith Nichols, Caribbean Community Climate Change Centre)	Thank you for your comment
214	35580	15	10	7	0	11	I believe that the list of participants in the WCI is out of date -- a number of states dropped out after the Republicans took political control (Daniel Farber, UC Berkeley)	Thank you. This section has been revised.
215	41381	15	10	7	10	15	Exemplarily you could also use the following project as a regional collaboration: <a href="http://www.mdpi.com/2073-4441/3/3/737/pdf">http://www.mdpi.com/2073-4441/3/3/737/pdf</a> (Sven Harmeling, Germanwatch)	Thank you. We will include this project in the next revision of the chapter

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
216	37355	15	10	8	0	10	Names for only 8 states have been given. (So Kazama, Tohoku University)	The section has been revised to provide a more international perspective.
217	37356	15	10	10	0	0	No full stop at the end of the sentence. (So Kazama, Tohoku University)	Thank you
218	35755	15	10	12	10	12	The sentence need correction. The authors mean "In the United States, waste water managers are" ? (Jitendra Desai, Reliance Industries Limited)	The text has been modified.
219	43432	15	10	15	10	15	We need to capture more data/text from least/developing countries also. It is about Americas but not alone about Americas. There is hardly any refrence to Africa so far, Asia is mentioned vaguely and mountain specific adaptation being unique as in other contexts (e.g. coastal) is hardly referred to (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	We seek to present an international perspective. Text has been modified to reflect this effort (page 11 line 17) but we will continue to improve this section in the next draft.
220	43433	15	10	17	10	36	We need to capture more organisations such as ADB in Asia, GIZ, ICIMOD in the Himalayas, as to how PPCR's are being prepared and what have been the constraints. We cannot only limit to World bank or OXFAM. Also no mention is made to European organisations/states (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you for your comment. We would appreciate if you could suggest specific references.
221	44874	15	10	24	10	24	Brooks et al not in references (Joel Smith, Stratus Consulting Inc.)	Reference has been added
222	53085	15	10	27	10	27	Why? (Kristie L. Ebi, IPCC WGII TSU)	text has been modified
223	42862	15	10	30	10	36	The Caribbean Catastrophe Risk Facility manages to keep premiums low by pooling national governments together. However, the Facility does not fund private or household insurance, but rather sovereign insurance, which can be disbursed at the choice of the beneficiary governments against either asset reconstruction or livelihood recovery. Please correct this example. (Sofia Bettencourt, World Bank)	This case has been addressed in the text in page 17 line 24.
224	41435	15	10	39	0	0	The title of the sub-chapter is misleading. The National Adaptation Plans (NAPs) process is a process initiated only recently under UNFCCC. The NAPA process is a kind of predecessor, but distinct. The chapter misses to recognise that an increasing number of developing countries - examples include Bangladesh, Kenya, Honduras, Costa Rica - has developed its own longer-term planning strategies, often treating adaptation and mitigation in the same document. They have been developed apart from an internationally guided process. The NAPs process referred to above is totally missing here in this chapter, and it is a process which has a stronger focus on longer-term planning in developing countries. Support under UNFCCC will initially focus on LDCs. Both aspects - domestic, integrated climate change strategies in developing countries and NAPs - should be addressed in this chapter. Reference documents could include those on the UNFCCC website as well as e.g. <a href="http://germanwatch.org/klima/ad-naps.htm">http://germanwatch.org/klima/ad-naps.htm</a> . The title of the chapter should be change to "National adaptation planning approaches" or something like that to avoid confusion with the NAPs process. (Sven Harmeling, Germanwatch)	Thank you for this observation. We agree. The text has been modified and this sentence eliminated (page 10 line 45). We will continue the section on national planning to better integrate your comment.
225	53086	15	10	39	0	0	It is unclear why information on NAPAs is repeated here. (Kristie L. Ebi, IPCC WGII TSU)	Text has been modified to avoid repetition.
226	54637	15	10	39	0	0	Section 15.2.2.2. If national adaptation plans are different from NAPAs, it may be useful to provide some clarification on the difference. (Monalisa Chatterjee, IPCC WGII TSU)	This issue has been included in the SOD (page 10)
227	44875	15	10	39	11	37	Analysis of NAPAs in Smith et al may of interest. Smith, J. B., T. Dickinson, J. D. B. Donahue, I. Burton, E. Haites, R. J. T. Klein, and A. Patwardhan. 2011. "Development and climate change adaptation funding: coordination and integration." Climate Policy. 11 (3): 987-1000. (Joel Smith, Stratus Consulting Inc.)	Thank you. We will include this reference in the revision of this section.
228	45456	15	10	39	11	37	For a review of NAPAs that found that only around 14 percent of resources called for by selected NAPAs were for projects that 'largely or exclusively targeted urban areas', despite the importance of adaptation in those areas, see UN-Habitat's Cities and Climate Change Initiative. 2011. "Policy Note 1: Adaptation Finance: Are Cities in Developing Countries Slipping Through the Cracks?". This document can be accessed at <a href="http://www.unhabitat.org/ccci">www.unhabitat.org/ccci</a> , under 'publications'. (Rafael Tuts, United Nations Human Settlements Programme)	Thank you for your suggestion. We believe this is an important issue. This reference will be considered in the preparation of the next draft.
229	47172	15	10	39	11	37	Mainstreaming responses to climate change would require a multidimensional architecture (as articulated earlier in the paragraph) that would secure the participation of all stakeholders (private, public, civil society, communities, etc) in the decision-making process, since climate change is everyone's business. This suggests the establishment of an institutional framework that secures the broad input of all stakeholders, such as the one just approved by the Cabinet of Ministers in Belize. (Keith Nichols, Caribbean Community Climate Change Centre)	Thank you. We would appreciate if you could suggest a reference addressing this issue.
230	45082	15	10	40	0	53	Duplicates Chapter 14 but more briefly - is this useful? (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Text has been modified to avoid this overlap
231	41598	15	10	41	0	0	Recently a paper was published about a comparison of 10 national adaptation plans. See: Bauer et al. (2012). The governance of climate change adaptation in 10 OECD countries: challenges and approaches, Journal of Environmental Policy & Planning (in press). (Peter P.J. Driessen, Utrecht University)	Thank you for your comment. We will include this new reference in the next draft.
232	46089	15	10	41	11	37	NAPAs were previously discussed in Chapter 2, line 40, page 31 to line 25, page 32 as well as in Chapter 14, page 26 line 12 to page 27, line 6. (Luis E. Garcia, World Bank)	Text has been modified to avoid repetition.
233	37354	15	10	42	0	44	NAPA has been defined earlier at Page 9, Line 31. (So Kazama, Tohoku University)	Text has been modified to avoid repetition.
234	35636	15	10	47	0	0	47 NAPAs were prepared to date. This was stated in page 9, line 32. (Norio Saito, Graduate School of Science and Engineering, Ibaraki University)	Text on NAPAs has been modified. Please see page 10. Line 45.
235	53087	15	10	47	10	47	Earlier said 47 NAPAs have been received. (Kristie L. Ebi, IPCC WGII TSU)	Text has been modified to avoid this problem.
236	53088	15	10	47	10	49	But not all sectors were included in NAPAs. (Kristie L. Ebi, IPCC WGII TSU)	We have modified the text on NAPAs. See page 10 line 45
237	50874	15	11	1	11	1	In place of the word "should," it would be preferable to indicate the benefits of making such linkages more explicit, also to avoid potential interpretations of prescription. (Katharine Mach, IPCC WGII TSU)	Text has been corrected

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
238	40317	15	11	13	11	14	At the end of this sentence, above mentioned reference (Alam et al., 2011) can be given. This paper took 'Bangladesh Climate Change Strategy and Action Plan' (BCCSAP) as an example and investigated how power relations among the actors shaped the climate change planning in Bangladesh in recent years. (Haseeb Irfanullah, Practical Action)	We will add this reference in the next version of the chapter.
239	43355	15	11	13	11	26	Please add the following sentence, e.g. in line 19: "The European Union has launched the European Climate Adaptation Platform (Climate-ADAPT, <a href="http://climate-adapt.eea.europa.eu/">http://climate-adapt.eea.europa.eu/</a> ), which presents information relevant for the development of adaptation strategies, including links to national and regional adaptation strategies and to already implemented adaptation measures across Europe. (Hans-Martin Füssel, European Environment Agency)	Thank you for this suggestion. Due to an oversight this line was not included in the SOD. We will make sure it will be included in the next draft
240	53089	15	11	13	11	26	The SREX has information on facilitating local adaptation. (Kristie L. Ebi, IPCC WGII TSU)	This reference has been included in the second part of the chapter (section 15.2.3 on Strategies and Approaches
241	35146	15	11	14	0	19	Other comparative studies on European National Adaptation Policies are: Swart RJ et al 2009. Europe Adapts to climate change. Comparing national adaptation strategies. Helsinki: PEER Report. See also Johola, Keskitalo and Westerhoff (2011). Understanding the framings of climate change adaptation across multiple scales of governance in Europe. Environmental Politics 4, 445-463. Termeer, Carrien et al 2011, Institutions for adaptation to climate change: comparing national adaptation strategies in Europe. European Consortium for Political Research 1680-4333/1. (Sofie Storbjork, Linkoping University)	A similar reference was included in the chapter (Juhola, S. and Westerhoff, L., 2011: Challenges of adaptation to climate change across multiple scales: a case study of network governance in two European countries. Environmental Science and Policy 14(3): 239-247. But we will add the two suggested references.
242	42692	15	11	22	11	25	Although the Australian Climate Change Adaptation Framework is currently in place, there has been a limited number of examples of where COAG has initiated any adaptation strategies in the past couple of years. (Adam Davis, Manidis Roberts Pty Ltd)	Thank you. This is an interesting comment. We would appreciate if you could suggest a reference documenting this issue.
243	35147	15	11	28	0	30	The Hulme quote that strategies are just the start of a process is very important and perhaps could be highlighted as part of the summary, again stressing adaptation as an ongoing process for which there is large agreement in published papers. I think this quote is very significant. (Sofie Storbjork, Linkoping University)	Thank you. We will make sure this issue appears in the next draft of the Executive Summary of the chapter
244	54638	15	11	28	11	28	The relevance of diversity of approaches to adaptation is mentioned in many places of the chapter and in chapters 14 and 16. It may be helpful to coordinate with these chapters in defining these approaches. (Monalisa Chatterjee, IPCC WGII TSU)	A better coordination has been established by the CLA of these three chapter to reduce this type of problems.
245	35175	15	11	33	0	0	Many of the studies suggesting spatial planning as a way to overcome conflicts also emphasise climate change (adaptation + mitigation) in relation to sustainable development and other political concerns. See e.g. Biesbroek, G. R. et al. (2009), 'The mitigation-adaptation dichotomy and the role of spatial planning', Habitat International 33. Bizikova, L et al. (2007), 'Linking climate change and sustainable development at the local level', Climate Policy 7, 271-277. Swart, R. et al. (2007), 'Making integration of adaptation and mitigation work', Climate Policy 7, 288-303. (Sofie Storbjork, Linkoping University)	We will continue to review this section to address your comment and include the suggested references. There are other recent publications with a similar focus that will be included as well.
246	53090	15	11	38	11	38	There should be discussion of the issues that cross sectors. (Kristie L. Ebi, IPCC WGII TSU)	Please suggest a reference addressing this issue.
247	41185	15	11	40	0	0	Section 15.2.2.3 pg 11 line 40 – I don't feel this title represents what is presented in this section. I would suggest changing it to read "sub-national and local adaptation plans". For countries such as Canada, there are several provincial plans, which are sub-national and would not be considered local. (e.g. MOE 2011. Climate Ready: Ontario's Adaptation Strategy and Action Plan 2011-2014. Queens Printer for Ontario. 120pg.; BC MOE 2010. Preparing for Climate Change: British Columbia's Adaptation Strategy. Government of British Columbia. 8pg.). (Susan Evans, WWF-Canada)	We have modified the text based on this suggestion (page 11 line 17)
248	42864	15	11	40	0	0	The effectiveness of local adaptation plans depends largely on the degree of fiscal decentralization: in countries (such as Ethiopia) where local governments have solid access to contingency funds, they tend to work more effectively than in others (such as Madagascar or Zambia) where governance systems remain mostly deconcentrated (but not fully decentralized). (Sofia Bettencourt, World Bank)	Please suggest a reference addressing this issue.
249	37163	15	11	42	0	0	Suggest considering Land Use Plans at municipal level. Very relevant for adaptation at local level, especially for rural areas and high mountain ecosystems. Reference to "Adaptive Land Use plans" as a way to address climate change impacts on global commons. Lessons learned include restoration as a way to address climate change impacts. IDEAM, Aspectos del cambio climático y adaptación en el ordenamiento territorial de alta montaña. Guía metodológica, Caso piloto, Proyecto Nacional de Adaptación al Cambio Climático –INAP– componente B, IDEAM y Conservación Internacional, Bogotá, 2011. (Angela Andrade, Conservation International Colombia)	Thank you for this suggestion. We will consider this issues and reference in the next review of this section.
250	41599	15	11	42	11	53	I think there is much more literature on local adaptation plans and actions. See for instance: Runhaar, H., H. Mees, A. Wardekker, J. van der Sluijs & P.P.J. Driessen (2012). Adaptation to climate change related risks in Dutch urban areas: stimuli and barriers, Regional Environmental Change (DOI 10.1007/s10113-012-0292-7 published online). The paper has a special focus on flooding and heat stress. (Peter P.J. Driessen, Utrecht University)	Thank you for this suggestion. We will consider this reference in the next review of this section.
251	35148	15	11	44	0	45	Perhaps somewhere state that the lack of studies on efficiency might also be explained by the fact that many of these plans/strategies are done to be able to deal with changes that have not yet occurred? It is however possible to analyse to what extent they are actually used in concrete decision-making practices which have not been done enough yet, supporting the conclusion that we still need to know much more of the actual implementation of plans/strategies. (Sofie Storbjork, Linkoping University)	This is an interesting and important point. We will seek to include it in our next review
252	48766	15	11	49	0	50	and also in many European countries (eg France, germany, Netherlands, etc.) (Biesbroeck et al. 2010; Pfenninger and al. (2012), "Report on perceived policy needs and decision contexts", for the European commission in the MEDIATION project framework, Dumollard G and Leseur A (2011) Drawing up a national adaptation policy: feedback on five European case studies, CDC Climat Research report, Paris) (ALEXIA LESEUR, CDC Climat Research)	We will include these reference in the next revision of this section.



#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
253	35149	15	11	50	0	0	In Sweden the work undertaken by the city of Gothenburg might be mentioned here as they have formed a particular cross-sectoral "extreme weather team of officials" working with climate change adaptation in planning (see e.g. Glaas, E. et al, 2010. Managing climate change vulnerabilities: formal institutions and knowledge use as determinants of adaptive capacity at the local level in Sweden. Local Environment 15, 525-539). (Sofie Storbjork, Linkoping University)	We included the Glass et al. referecne in section 15.3.1 on institutional arrangements but we will consider including it also in this section.
254	53091	15	11	52	11	52	But is reducing current vulnerability sufficient to make an option low regrets? (Kristie L. Ebi, IPCC WGII TSU)	No action needed
255	45083	15	12	3	0	5	Note there are extensive emerging standards for adaptation planning for local governments emerging in Australia through the recently completed Coastal Adaptation Development Pathways programme funded by the federal Dept of Climate Change & Energy Efficiency, e.g. leading to documents promulgated in South Australia (Balston et al, maybe available from her - Jacqueline.Balston@unisa.edu.au - or the SA LLocal Govt Association), Tasmania (clive.attwater@sgsep.com.au), HunterValley NSW (Steve Wison, stevew@huntercouncils.com.au), etc. These regularly promote a decision-centred, iterative process that takes care not to get stuck on seeking unnecessary precision in the impacts and vulnerability assessment steps (see also UKCIP, etc). It would be useful to identify some of these emerging standards, also reflected in the thinking of the draft PROVIA Guidelines ( <a href="http://www.provia-climatechange.org/ABOUT/PriorityActivities/Activity4/tabid/55274/Default.aspx">http://www.provia-climatechange.org/ABOUT/PriorityActivities/Activity4/tabid/55274/Default.aspx</a> ) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	We will include these references in the next review of the chapter. We need to wait for a final version of the PROVIA document.
256	35150	15	12	3	0	12	The role of local governments is also emphasised in earlier studies like: Kousky, C. and S. H. Schneider (2003), Global climate policy: will cities lead the way?, Climate Policy 3, pp. 359-372. Betsill, M. M. & Bulkeley, H. (2007), Looking Back and Thinking Ahead: A Decade of Cities and Climate Change Research, Local Environment, 12, pp. 447-456. (Sofie Storbjork, Linkoping University)	The Betsill and Bulkeley reference focuses mostly on mitigation not adaptation
257	47756	15	12	3	12	5	This point about local governments is valid and important but seems out of place here. Either move elsewhere or include some transition text from the description of low-regret options in "disaster management and climate adaptation." (Eric Toman, The Ohio State University)	Text has been modified to improve coherence in this section
258	35151	15	12	7	0	19	This is a very good section on the situation in the US. Perhaps use some other geographical outlooks describing the current state of activities in respect of climate adaptation to give a yet broader picture? This also goes for other sections in the chapter. (Sofie Storbjork, Linkoping University)	We modified several sections of the chapter to enhance coherence and provide and an international perspective
259	42991	15	12	7	12	19	This section seems to be biased to the United States. Other provincial governments are also in the process of plan for climate change impacts. For example, the State Government of Victoria (Australia) is undertaking a state-wide climate change adaptation planning process, which is a policy commitment under the state's Climate Change Act (2010). Reference: Victorian Government. (2010). Climate Change Act 2010. Forestry (p. 62). Melbourne: Victorian Government. (Hartmut Fuenfgeld, RMIT University)	We modified several sections of the chapter to enhance coherence and provide and an international perspective
260	53092	15	12	7	12	19	Some states are on their second round of assessment. (Kristie L. Ebi, IPCC WGII TSU)	Thank you for the information. We took into considreation this point to SDO revisions.
261	49100	15	12	9	12	10	Only 8 states are listed, but the text says 11 states have launched planning efforts. (Oyvind Christophersen, Climate and Pollution Agency)	We modified several sections of the chapter to enhance coherence and provide and an international perspective
262	42992	15	12	17	12	17	While London and New York can certainly be considered leaders in climate risk assessment and climate change adaptation, many other cities are now advanced in adaptation planning. Some of these are mentioned on page 13, lines 15ff. but it would be useful to acknowledge here that there are many other cities in addition to London and New York that have shown significant leadership. (Hartmut Fuenfgeld, RMIT University)	We modified several sections of the chapter to enhance coherence and provide and an international perspective
263	43434	15	12	21	12	32	Obviously focus so far has been on coastal areas, savannas, or tropical deforestation areas and therefore it is important that mountain development issues are given importancia as well. ICIMOD has been since past few years and especially since its publication of HKH Climate Change Report 2011 Ref: Singh,SP; Bassignana-Khadka, I; Karky, BS; Sharma,E. (2011) Climate change in the Hindu Kush-Himalayas: The state of currnt knowledge. Kathmandu, ICIMOD. and the "Too Much Too Little Water" Ref: ICIMOD 2009 Local Responses to Too Much and Too Little Water in the Greater Himalayan Region. ICIMOD. reiterated the importance of climate change adaptation in the mountains. In its several other publications in last few years e.g. climate change status in Hindi Kush Himalayas (HKH), it has provenly mentioned that adaptation in the mountains where climatic changes in higher altitudes are happening at faster pace, glaciers are melting at faster pace and several other extreme events have been frequent, we need to give serious attention in IPCC reports. After all HKH is origin for 10 major river basins with benefits upsteram-downstream for 1.3 billion of the mankind on this planet. Adaptation specific to the mountains needs to be considered in IPCC reports. What needs to be hoghlighted is also that already such mountain ecosystems are located in harsh microclimates, often inaccessible, with fragile geology, and marginalisation when it comes to development outreach. Therefore adaptation in mountain ecosystems is much more complex and needs to be better understood. (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	The suggested references will be added in this section in the next draft
264	40315	15	12	26	12	28	At the end of this sentence, following references need to be added to support the statement. Ref. 1: Khan, S.M.M.H., Saleemul Huq and Md. Shamsuddoha. The Bangladesh National Climate Funds: A brief history and description of the Bangladesh Climate Change Trust Fund and the Bangladesh Climate Change Resilience Fund. LDC paper series. International Institute for Environment and Development (IIED) and European Capacity Building Initiative (ecbi).1-12 pp. Ref.2: Alam, K., Md. Shamsuddoha, T. Tanner, M. Sultana, M.J. Huq and S.S. Kabir 2011. The political economy of climate resilient development planning in Bangladesh. IDS Bulletin Volume 42(3), 52-61. (Haseeb Irfanullah, Practical Action)	Thank you, but we have to delete sentences about Bangladesh here due to the need to shortening of the chanter.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
265	35152	15	12	29	0	32	The elevation of bridges is one good example of changes being made when "building new". Can similar examples be made with existing settlements in mind? (it is often discussed as being easier to "do right" when building new areas). (Sofie Storbjork, Linköping University)	Thank you for your comment
266	35756	15	12	30	12	30	May consider Insertion after higher elevation of " and design codes for the storages and equipments in industries have been revised." (Jitendra Desai, Reliance Industries Limited)	The text has been modified.
267	53093	15	12	38	12	42	It would be helpful to explain this is about moving communities. (Kristie L. Ebi, IPCC WGII TSU)	We will consider this suggestion in the next review of this section
268	35153	15	12	44	0	46	It needs to be mentioned that the Lundqvist and Borgstede study refers to mitigation, not adaptation. The Aall study also concerns mitigation which is already mentioned (line 46-47) but this means that the whole section relates to mitigation. What can be said about adaptation in this respect? Perhaps a reference to smaller/larger cities with differing socioeconomic conditions and abilities to work with adaptation. Here study by Hjerpe & Glaas (2012), Evolving local climate adaptation strategies: incorporating influences of socio-economic stress. Mitigation and Adaptation Strategies for Global Change 17, 471-486 could be used as the study found large differences between departments in terms of resources to invest in adaptation between smaller and larger Swedish municipalities. (Sofie Storbjork, Linköping University)	The text has been modified and this parragraph removed (page 11 line 55)
269	53094	15	13	8	13	8	What incident command system? (Kristie L. Ebi, IPCC WGII TSU)	Pargraph has been removed
270	38580	15	13	13	13	25	Individual urban areas generally cannot afford to develop, and lack the expertise to develop, their own standards for adaptation. They will use national or international standards which can account for local extreme environments. (Richard Wright, Retired, U.S. National Institute of Standards and Technology)	The text has been modified and this parragraph removed
271	43356	15	13	13	13	47	Please cite the following report: Urban Adaptation to Climate Change in Europe. EEA Report No 2/2012. European Environment Agency, Copenhagen, Denmark, 2012. Available at: <a href="http://www.eea.europa.eu/publications/urban-adaptation-to-climate-change">http://www.eea.europa.eu/publications/urban-adaptation-to-climate-change</a> (Hans-Martin Füssel, European Environment Agency)	Thank you for this suggestion. We will consider this reference in the next review of this section.
272	54639	15	13	15	13	15	The author team may consider changing 'gray literature' to 'non journal literature'. (Monalisa Chatterjee, IPCC WGII TSU)	done
273	42693	15	13	15	13	25	In Australasia, key local adaptation plans also include the City of Melbourne, 2009 and the City of Canada Bay, 2011. (Adam Davis, Manidis Roberts Pty Ltd)	We will include this seggestion in our next draft
274	41600	15	13	15	13	47	There is also more literature available on adaptation in urban areas. Within a few weeks a paper will be published on realizing green roofs for storm-water retention, based on an empirical study in five 'frontrunning' cities (Basel, Chicago, London, Rotterdam and Stuttgart). This paper could provide additional information for this section. See: H. Mees, P.P.J. Driessen, H.A.C. Runhaar and J. Stamatelos (2012). Who governs climate adaptation? Getting green roofs for storm-water retention of the ground, Journal of Environmental Policy and Management. See also a special issue on climate proofing cities in Resources, Conservation and Recycling (vol 64, July 2012). (Peter P.J. Driessen, Utrecht University)	Thank you for this suggestion. We will include these references in the next review of this section.
275	45084	15	13	17	0	22	There are also a growing number of plans among Australian LGs: e.g. Kuring-gai NSW ( <a href="http://www.kmc.nsw.gov.au/www/html/518-climate-change-adaptation-and-mitigation.asp">http://www.kmc.nsw.gov.au/www/html/518-climate-change-adaptation-and-mitigation.asp</a> ), Penrith NSW ( <a href="http://www.penrithcity.nsw.gov.au/uploadedFiles/Website/Sustainability/Greenhouse/Risk%20Assessment%20Report%20-%20Final%20Sep09.pdf">http://www.penrithcity.nsw.gov.au/uploadedFiles/Website/Sustainability/Greenhouse/Risk%20Assessment%20Report%20-%20Final%20Sep09.pdf</a> ), and many others - some reviewed in this doc ( <a href="http://www.nccarf.edu.au/settlements-infrastructure/sites/www.nccarf.edu.au.settlements-infrastructure/files/ACCARNSI_STAGE%201%20REPORT_Case%20Studies%20of%20Adaptation%20Tools_Final_May%202012.pdf">http://www.nccarf.edu.au/settlements-infrastructure/sites/www.nccarf.edu.au.settlements-infrastructure/files/ACCARNSI_STAGE%201%20REPORT_Case%20Studies%20of%20Adaptation%20Tools_Final_May%202012.pdf</a> ), others in this ( <a href="http://www.climatechange.gov.au/what-you-can-do/~/_media/publications/local-govt/localadaption_localgovernment.pdf">http://www.climatechange.gov.au/what-you-can-do/~/_media/publications/local-govt/localadaption_localgovernment.pdf</a> ) among other sources. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Thank you for this suggestion. We will include these references in the next review of this section.
276	45457	15	13	17	13	19	To the list of 'special issues in some academic journals' could be added a special edition of Local Environment: The International Journal of Justice and Sustainability, planned for early 2013, which will critically review the experience of UN-Habitat and its Cities and Climate Change Initiative. (Rafael Tuts, United Nations Human Settlements Programme)	Thank you. Could you please provide us the complete reference of this study
277	35484	15	13	19	13	21	The Helsinki Metropolitan Area has its adaptation strategy in place since April 2012 (HSY 2012). The strategy is available in Finnish ( <a href="http://www.hsy.fi/tietoahsy/Documents/Julkaisut/10_2012_paakaupunkiseudun_ilmastonmuutokseen_sopeutumisen_strategia.pdf">http://www.hsy.fi/tietoahsy/Documents/Julkaisut/10_2012_paakaupunkiseudun_ilmastonmuutokseen_sopeutumisen_strategia.pdf</a> ) with a summary in English and will be published in English in August 2012. (Susanna Kankaanpää, Helsinki Region Environmental Services Authority (HSY))	Thank you for this suggestion. We will include it in the next review of this section.
278	35154	15	13	23	0	0	Perhaps state a few of the lessons as examples? (Sofie Storbjork, Linköping University)	Thank you for this point. We cross-ferefere to the urban chapter for examples.
279	53095	15	13	23	13	23	What lessons are useful to other cities? (Kristie L. Ebi, IPCC WGII TSU)	this point will be addressed in the next review of the section
280	35155	15	13	30	0	33	Related to the second comment also here there are conclusions drawn without references regarding the number of adaptation plans in developed/developing countries. Further the argumentation needs to be made clearer sometimes it is suggested that developed counres show more initiatives (p 13 lines 30-33) and in other places that more implementation cases are documented in developing countries (highlighted in executive summary and reoccurring in the chapter). (Sofie Storbjork, Linköping University)	Agree.
281	54640	15	13	30	13	32	The author team may wish to highlight differences in the adaptation plans of urban areas in developed and developing countries by providing examples. The author team should also cite relevant references. (Monalisa Chatterjee, IPCC WGII TSU)	agree

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
282	35157	15	13	35	0	47	Studies also supporting the conclusions of difficulties in vertical and horizontal administrative interplay/coordination which comes in the way of current adaptation efforts are (also mentioned above) : Næss, L. O. et al 2005. Institutional adaptation to climate change: Flood responses at the municipality level in Norway. Global Environmental Change 15, 125-138, Hedensted Lund, D. et al (2012), Climate change adaptation in Denmark: enhancement through collaboration and meta-governance. Local environment, in press, Storbjörk, (2010), "It takes more to get a ship to change course. Barriers for organisational learning and local climate adaptation in Sweden", Journal of Environmental Policy and Planning Vol. 12, No. 3, 235-254. Glaas, E. et al, 2010. Managing climate change vulnerabilities: formal institutions and knowledge use as determinants of adaptive capacity at the local level in Sweden. Local Environment 15, 525-539, Wall, E., Marzall, K., 2006. Adaptive Capacity for Climate Change in Canadian Rural Communities. Local Environment 11, 373-397, Moser, S., 2005. Impact assessments and policy responses to sea-level rise in three US states. Global Environmental Change 15, 353-369, Wilson, E., 2006. Adapting to Climate Change at the Local Level: The Spatial Planning Response. Local Environment 11, 609-625, Measham et al 2011, Adapting to climate change through local municipal planning. barriers and challenges. Mitigation and Adaptation Strategies for Global Change 16, 889-909, Amundsen, H. et al 2010. Overcoming barriers to climate change adaptation: a question of multilevel governance? Environment and Planning C: Government and Policy, 28, 276–289. Nilsson, A. et al 2012. Knowledge for local climate change adaptation in Sweden: challenges of multilevel governance. Local Environment, in press. (Sofie Storbjörk, Linköping University)	These referemces will be included in the next revision of this section
283	48767	15	13	35	0	47	Among difficulties, one could add the access to climate data at the local level, that is one of the most important. (ALEXIA LESEUR, CDC Climat Research)	We included this point in Tools section and others.
284	49101	15	13	35	13	39	Two first sentences states that there are difficulties in adaptation planning. And then two references in developed countries are mentioned. But there is no information about what these difficulties are. Can this be included? The next sentence states that ..."few urban areas have the resources and know-how to ...in developing countries". (Oyvind Christophersen, Climate and Pollution Agency)	We will seek to include this point in the next revision of the chapter
285	42863	15	13	35	13	47	There are very good examples of municipal and prefecture level plans which incorporated hazard risk management in Tohoku, Japan, following the recent earthquake/tsunami (lessons learned are currently being published) (Sofia Bettencourt, World Bank)	We will be grateful if you could suggest refereces addressing this issue
286	53096	15	13	35	13	47	How are they dealing withthese challenges (while not overlapping with Chapter 16)? (Kristie L. Ebi, IPCC WGII TSU)	Challenges will be addressed in chapter 16
287	49102	15	13	46	13	47	Is it possible to quantify more exact, instead of just "large number"? Is it more than 8%, more than 20%?? (Oyvind Christophersen, Climate and Pollution Agency)	It is difficult to quantify
288	35156	15	13	47	0	0	Again make a comment that planning does not equal implementation in actual decision-making practices. (Sofie Storbjork, Linköping University)	We will make this comment in the next review
289	44403	15	13	50	14	21	Ref to consider: Schipper, L., 2012, Transformative adaptation Communities responding to climate change, Available online: <a href="http://www.capacity.org/capacity/opencms/en/topics/adapting-to-climate-change/transformative-adaptation.html">http://www.capacity.org/capacity/opencms/en/topics/adapting-to-climate-change/transformative-adaptation.html</a> ; S. Huq and H. Reid, Community-Based Adaptation. A Vital Approach to the Threat Climate Change Poses to the Poor (IIED Briefing Papers, IIED, London, 2007); See <a href="http://www.cba-exchange.org/">www.cba-exchange.org.</a> (Linda Sygna, University of Oslo)	We will include these reference in the next review of the chapter
290	43435	15	13	52	14	21	Community based adapatation planning has progressed in South Asia with also remote sensing science being applied together with climate science tools to imporve upon communities perception and decisionmaking on cliamate variability issues. However, in several place there is a sort of development fatigue (with too many NGOs, donors, public sector actors around), as people are not participating in such consultative events unless they see some instant benefits. Since delivery of services from state actors is not converging, whoever offers more activities/subsidies people are opting for that. There is a perceptible needs of improved, well designed climate awareness. On the other hand, we need to reset our planning and negotiation tools as conflict management is emerging a key area for adaptation planning. Similarly, with migration process especially in mountains on, we need to rethink community based adaptation planning as inclusive and integrated with clear responsibility with local institutions. (These are getting weaker though: lack of good governance, disparity between local government and other informal isstitutions (e.g. a forest users group having more funds than local government and therefore Yielding more power in decisonmaking), and increasing urbanisation culture in rural area bringing individualism to teh fore rather than collectivism. We need a separate highlighting of issues when it comes to ethnicities and tribals, which have their own customary institutions and often work with different operative norms and not necessarily inclusive, equitable and gender-friendly. We need to involve these institutions more on climate observation issues/monitoring (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you for your comment. We will try to incorporate these points in our next revision.
291	53097	15	14	2	14	2	Not always. (Kristie L. Ebi, IPCC WGII TSU)	Please remind us of this reference again in your next review.
292	53098	15	14	6	14	13	This could be an appropriate place to discuss boundary organizations. (Kristie L. Ebi, IPCC WGII TSU)	We have made comments on boundary organizations in section 2.4.2.
293	47190	15	14	20	14	20	The correction citation is (Nakashima et al. 2012). Nakashima, D.J., Galloway McLean, K., Thulstrup, H.D., Ramos Castillo, A. and Rubis, J.T. 2012. Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation. Paris, UNESCO, and Darwin, UNU, 120 pp. (Douglas Nakashima, UNESCO)	We will change the citation in our next revision.
294	40856	15	14	24	0	0	Section 15.3 - Concrete examples of ecological adapation measures that have been implemented or are under development would address a major omission of this chapter. The chapter could gather the examples into a new subsection on implementation of ecological adaptation measures. See the three following comments for examples. (Patrick Gonzalez, National Park Service)	This topic is beyond the scope of our chapter. Please see the chapter dealing with various ecosystems on detailed treatment of this topic.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
295	40857	15	14	24	0	0	A field example of implementation of adaptation measures for wildfire under climate change: "Field trials in Arizona and California, USA indicate that prescribed burning, wildland fire, mechanical thinning, and retention of large trees can all reduce potential future fire severity (Stephens et al. 2009). In California, the U.S. National Park Service conducts prescribed burning to reduce fuel loads and protect giant sequoia trees from catastrophic wildfire, an adaptive measure for climate change (Swetnam et al. 2009)." [Stephens, S.L., J.J. Moghaddas, C. Edminster, C.E. Fiedler, S. Haase, M. Harrington, J.E. Keeley, E.E. Knapp, J.D. Mclver, K. Metlen, C.N. Skinner, and A. Youngblood. 2009. Fire treatment effects on vegetation structure, fuels, and potential fire severity in western U.S. forests. Ecological Applications 19: 305-320. Swetnam, T.W., C.H. Baisan, A.C. Caprio, P.M. Brown, R. Touchan, R.S. Anderson, and D.J. Hallett. 2009. Multi-millennial fire history of the Giant Forest, Sequoia National Park, California, USA. Fire Ecology 5: 120-150.] (Patrick Gonzalez, National Park Service)	Thank you for the references. We will consider these in our next revision.
296	40858	15	14	24	0	0	A field example of implementation of adaptation measures for coral reefs under climate change: "The U.S. National Park Service and the University of Miami are raising local strains of heat-resistant corals for outplanting that could increase the resilience of reefs in the Florida Keys bleached by warming." [Lirman, D., T. Thyberg, J. Herlan, C. Hill, C. Young-Lahiff, S. Schopmeyer, B. Huntington, R. Santos, and C. Drury. 2010. Propagation of the threatened staghorn coral <i>Acropora cervicornis</i> : methods to minimize the impacts of fragment collection and maximize production. Coral Reefs 29: 729-735.] (Patrick Gonzalez, National Park Service)	Thank you for the references. We will consider these in our next revision.
297	40859	15	14	24	0	0	Some organizations are now experimenting with managed relocation (assisted migration) as an adaptation measure, despite the risks for spreading invasive species or otherwise harming native species. This is an example of a potentially major adaptation measure that the chapter should mention, saying, for example: "The Managed Relocation Working Group has developed a framework for evaluating the ecological and social impacts of proposed managed relocation actions (Richardson et al. 2009) and compiled a review of the key scientific, ethical, and legal issues that an agency should consider before implementation (Schwartz et al. 2012)." [Richardson, D.M., J.J. Hellmann, J.S. McLachlan, D.F. Sax, M.W. Schwartz, P. Gonzalez, E.J. Brennan, A. Camacho, T.L. Root, O.E. Sala, S.H. Schneider, D.M. Ashe, J.R. Clark, R. Early, J.R. Etterson, E.D. Fielder, J.L. Gill, B.A. Minter, S. Polasky, H.D. Safford, A.R. Thompson, and M. Vellend. 2009. Multidimensional evaluation of managed relocation. Proceedings of the National Academy of Sciences of the USA 106: 9721-9724. Schwartz, M.W., J.J. Hellmann, J.M. McLachlan, D.F. Sax, J.O. Borevitz, J. Brennan, A.E. Camacho, G. Ceballos, J.R. Clark, H. Doremus, R. Early, J.R. Etterson, D. Fielder, J.L. Gill, P. Gonzalez, N. Green, L. Hannah, D.W. Jamieson, D. Javeline, B.A. Minter, J. Odenbaugh, S. Polasky, D.M. Richardson, T.L. Root, H.D. Safford, O. Sala, S.H. Schneider, A.R. Thompson, J.W. Williams, M. Vellend, P. Vitt, and S. Zellmer. 2012. Managed relocation: Integrating the scientific, regulatory, and ethical challenges. BioScience 62: 732-743.] (Patrick Gonzalez, National Park Service)	Thank you for the references. We will consider these in our next revision.
298	54641	15	14	26	0	0	Section 15.3.1. the chapter team may consider adding a synthetic figure or table to summarize different approaches. Moreover, the difference between approaches and strategies should be clarified. (Monalisa Chatterjee, IPCC WGII TSU)	Please make this suggestion again in your next review.
299	49103	15	14	30	14	30	In the introduction to Ch 15.3 strategies and approaches to climate change adaptation are listed; decreasing vulnerability, increasing resilience, increasing adaptive capacity and decreasing risk of impact. Only the latter (decreasing risk) are further elaborated on later in the section. The other three listed strategies are not described later in the section - or the following sections. The introduction/overview to 15.3 would have benefited from better setting up what is to come in the sub-chapter Adaptation Implementation. (Oyvind Christophersen, Climate and Pollution Agency)	Good point. Please raise this issue again in your next review.
300	50875	15	14	30	14	31	The author team may wish to consider the information provided parenthetically after "vulnerability" in light of the definitions provided in the report glossary (which present vulnerability as more distinct from exposure as compared to the definitions in the AR4). (Katharine Mach, IPCC WGII TSU)	The parenthesis has been removed.
301	52106	15	14	30	14	31	For the definitions implied parenthetically for the terms "vulnerability" and "resilience," the author team should ensure consistency with the entries for the terms in the report glossary. (Katharine Mach, IPCC WGII TSU)	The parenthesis has been removed.
302	46090	15	14	30	14	51	This seems to have been previously discussed in Chapter 14 in one way or another, same as what is in lines 15 to 20 in page 15 (Luis E. Garcia, World Bank)	Albeit some overlap, important points need to be mentioned for those who read only this chapter.
303	42601	15	14	34	14	46	The results might be better if we add the contribution of the Chinese government. the tide-resistant standards in the big river deltas of china have improved a lot. For example , it has been a standard which the floods would appear once in a thousand years in Shanghai coastal. Refer to the book 'Climate and environmental evolution in China-2012' which was published in 2012. (Jun Cheng Zuo, Hohai university)	We will consider this in the next revision.
304	35158	15	14	37	0	0	The work in the Netherlands should be mentioned here. See e.g. van den Brink, M. et al 2011. Are dutch water safety institutions prepared for climate change? Journal of water and climate change, p 272-287. Gupta, J et al 2010. The Adaptive Capacity Wheel: a method to assess the inherent characteristics of institutions to enable the adaptive capacity of society. Environmental Science & Policy 13, 459-471. (Sofie Storbjork, Linkoping University)	We have used the Gupta et al. paper on page 10 and page 21.
305	45370	15	14	41	0	43	The literature that is cited confirms this message, although it is not directly linked to it. Sabates-Wheeler focuses mostly on what the local level needs, and Rumbach and Kudva (the link is not working!) focus on the importance of local level adaptation . A third reference that would directly subscribe that adaptation finance channelled through national governments is not likely to reach the most vulnerable people would be: Pauw, Ayers and Kaere (2012). The international architecture of climate adaptation finance and its implications for African institutions. This will be published in the IDRC/Springer book 'Adapting Institutions to Climate Change: Can Africa Meet the Challenges?' edited by Fatima Denton, probably in Sept 2012. (Willem Pieter Pauw, German Development Institute (DIE))	Thank you for the comment. We will consider these for the next revision.
306	53099	15	14	49	14	51	This doesn't demonstrate a need for additional adaptation strategies. (Kristie L. Ebi, IPCC WGII TSU)	We deleted this.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
307	48302	15	15	0	0	0	I don't see any discussion of NAPA of developing countries especially China and India. This is important because of competing goals of National development vs. adaptation comes into play (Malini Nair, Indian Institute of Science)	As this is an overview, we avoided to focus on specific country cases.
308	49104	15	15	1	15	2	Is it possible to explain why community-based adaptation is becoming "popular"? (Oyvind Christophersen, Climate and Pollution Agency)	We think the reason is already in the text.
309	53100	15	15	4	15	4	Not all impacts are local. (Kristie L. Ebi, IPCC WGII TSU)	We deleted a sentence on local impacts.
310	50876	15	15	10	15	10	"likely" -- The author team should avoid casual usage of this reserved likelihood term. (Katharine Mach, IPCC WGII TSU)	We will check this in the next revision.
311	41447	15	15	13	0	0	while DRR and adaptation is devoted an entire section, analyses and categorisations of adaptation approaches to address the different types of slow-onset processes, such as sea-level rise, ocean acidification, glacial melting etc. are not addressed specifically. Why not? (Sven Harmeling, Germanwatch)	This chapter deals with some of the most focused adaptation strategies Those related to specific impacts are discussed in sectoral and regional chapters.
312	42867	15	15	13	0	0	The main reason why CCA and DRM agendas remain separate is historical: CCA arose out of UNFCCC negotiations (which were mostly led by Ministries of Environment) whilst DRM arose out of the Hyogo Framework (whose focal point agencies were Disaster Response institutions mostly under Ministries of Interior). Having different institutions made sense when DRM agencies focused mostly on response, and environmental institutions on climate policy and negotiations: however, as DRM agencies shift towards prevention and climate change institutions towards adaptation, there is a growing realization that the two agendas are overlapping, particularly in countries with predominantly meteorological disasters. See further information on this topic at Bettencourt et al (2006). Not If but When: Adapting to Natural Hazards in the Pacific Island Region. A Policy Note. World Bank, Washington DC. <a href="http://siteresources.worldbank.org/INTPACIFICISLANDS/Resources/Natural-Hazards-report.pdf">http://siteresources.worldbank.org/INTPACIFICISLANDS/Resources/Natural-Hazards-report.pdf</a> (Sofia Bettencourt, World Bank)	Thank you for the comment.
313	54642	15	15	13	0	0	Section 15.3.1.2. Author team is encouraged to have a balance in examples. (Monalisa Chatterjee, IPCC WGII TSU)	We will keep attempt to do so by finding literatures.
314	43436	15	15	13	15	43	We need to have some diversified focus in this chapter, as adaptation in coastal areas is extremely different as compared to mountains or any other inner continental arid savanna or grassland. Hence more instance have to be built here. Moreover migration is a complex issue in mountains and not always linked climate or economic disparity but also related to the cycle that development opens education/literacy arenas and this in turn leads to new venues of employment in other urban centres of HKH (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you for the comments. We will use different examples by finding literatures.
315	42865	15	15	15	15	28	CHARM is not an institution but a methodology. The institutions that have sought to merge DRR and CCA in the Pacific are SOPAC and SPREP, who are now encouraging countries to adopt Joint National Action Plans for Climate Change Adaptation and Disaster Risk Management . (Sofia Bettencourt, World Bank)	We will incorporate this in the next revision.
316	54643	15	15	15	15	28	The chapter team should summarize findings from multiple studies and cite all the relevant references. The author team may consider providing examples based on one or two references in a table. (Monalisa Chatterjee, IPCC WGII TSU)	We will consider this by finding literatures.
317	47757	15	15	17	15	20	Statement about where disaster risk reduction and climate adaptation are located within an institution are likely to vary between countries and it seems unlikely that this statement would be universally true. (Eric Toman, The Ohio State University)	Yes, we agree. Therefore, this statement say that disaster risk reduction and climate adaptation should be located within an institution.
318	50877	15	15	20	15	20	The author team should consider formulations here that avoid potential interpretations of policy prescription. For example, it would be preferable to indicate the benefits of coordination, rather than stating that it "must" be approached. (Katharine Mach, IPCC WGII TSU)	This statement does not say that this is a major trend but not universal one.
319	53101	15	15	22	15	28	What about addressing future risks? (Kristie L. Ebi, IPCC WGII TSU)	This aspect is dealt with in other sections.
320	42866	15	15	24	15	28	The only critique that is valid here is that DRM normally fails to address long-term effects of average climate change trends (by concentrating on extremes). However, disaster risk management that fails to take into account spatial or temporal scales or the root causes of cc vulnerability is just a poorly designed DRM framework. The chapter's authors should be careful not to infer from these articles that DRM fails to address these issues systematically (the authors could just be citing specific examples where this was wrongly applied). The benefits of merging the DRM and CCA agenda to prevent fragmentation of national capacity far exceeds any minor methodological constraints. (Sofia Bettencourt, World Bank)	Thank you for the comments. We agree with this aspect and we think that it is presented in the text. The portin that the reviewer raised is for balance of discussion.
321	37357	15	15	30	0	43	Kazama et al, 2009 discussed the adaptation cost evaluated by flood damage calculation in Japan.(So Kazama, Ayumu Sato, Seiki Kawagoe, Evaluating the cost of flood damage based on changes in extreme rainfall in Japan, Sustainability Science, Vol.4, Iss.1, pp.61-69, 2009.) (So Kazama, Tohoku University)	Thank you for the information, but we think that the space is limited for additional references.
322	45085	15	15	41	0	43	Note there is a similar 'betterment' policy problem in Australia under our National Disaster Relief and Recovery Programme ( <a href="http://www.em.gov.au/Fundinginitiatives/Naturaldisasterreliefandrecoveryarrangements/Pages/default.aspx">http://www.em.gov.au/Fundinginitiatives/Naturaldisasterreliefandrecoveryarrangements/Pages/default.aspx</a> ) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Thank you for the information, but we think that the space is limited for additional references.
323	54644	15	15	45	15	52	The author team may wish to cross reference chapter 22 (Africa) (Monalisa Chatterjee, IPCC WGII TSU)	We will consider this in the next revision.
324	53102	15	15	52	15	52	Common instead of everyday? (Kristie L. Ebi, IPCC WGII TSU)	We will consider this in the next revision.
325	47920	15	16	1	0	0	15.3.1.3 should include a more explicit description of how ecosystems and natural resources can contribute to adaptation -- particularly in terms of the links between ecosystems, the services that they provide, and human livelihoods and well-being. There is a list of examples, but not a definition. Integrated approaches that protect or restore ecosystems as a way to help people adapt to climate change are not specifically highlighted, nor the possible co-benefits of investing adaptation money in such approaches. (Jenny Frankel-Reed, USAID)	This is a chapter to assess the experiences of adaptation planning and implementation and there are other chapters dealing with concepts. However, we will consider to incorporate this suggestion in the next revision.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
326	53103	15	16	1	0	0	Why only look at ecosystems? Why are other sectors not considered? (Kristie L. Ebi, IPCC WGII TSU)	This sub-section is mostly devoted to general situations about adaptation and development. We will re-consider the sub-section title in the next revision.
327	43437	15	16	1	16	12	we need more evidence on development and adaptation combined sometimes leading to maladaptation (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	This is an important aspect. However, we lack literatures to respond to the comments.
328	46091	15	16	3	16	12	This seems to have been previously discussed in Chapter 14 in one way or another. (Luis E. Garcia, World Bank)	We coordinated with Ch14.
329	53104	15	16	5	16	12	This information is repeated. (Kristie L. Ebi, IPCC WGII TSU)	We restructured the chapter contents.
330	50878	15	16	14	16	14	"likely" – The author team should avoid casual usage of this reserved likelihood term. (Katharine Mach, IPCC WGII TSU)	We will change this in the next revision.
331	46092	15	16	16	15	17	This was previously said in lines 29 and 30, page 11 of this Chapter. (Luis E. Garcia, World Bank)	We deleted the former one.
332	53105	15	16	17	16	17	Do you mean GEF? (Kristie L. Ebi, IPCC WGII TSU)	We will check this.
333	53106	15	16	21	16	21	It would be helpful to have an assessment of these efforts. (Kristie L. Ebi, IPCC WGII TSU)	We revised this paragraph in the new 15.2.3.3.
334	40316	15	16	21	16	23	This sentence is same as that of Page 35, Lines 47-50. One needs to be revised. (Haseeb Irfanullah, Practical Action)	The latter one is in new 15.5. Research Needs for Maximizing Opportunities, which is not completely the same. As this section presents future tasks, some duplication can be allowable.
335	41382	15	16	21	16	28	This sounds like a very successful project, yet it might illustrate a "win-win" project as an easy task to practitioners although it is a very complex task to do this. (Sven Harmeling, Germanwatch)	Thank you for the comment. We agree. However, this evaluation is based on a literature.
336	43438	15	16	21	16	35	We have not given much attention to ecosystem adaptation especially this is important in areas where human systems are directly dependent on natural resources such as in rangelands or forest lands on millions of people in HKH depend on for their survival and incomes (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Adaptation of ecosystem is presented in the sectoral chapter on Ecosystems. Ecosystem-based adaptation is presented in Cross-Chapter Box at the end of Ch15.
337	44876	15	16	21	16	35	Paragraph comes across as cheerleading. Has there been a careful and sober evaluation of these national planning efforts. (Joel Smith, Stratus Consulting Inc.)	We revised the paragraph.
338	46968	15	16	22	16	23	The authors describe adaptation activities of developing country as "win-win" situation as it also helps to improving economic stability and environmental quality. I have serious objection to use this kind of word. I would like to request authors to think what a vulnerable and developing country can do to combat climate change which is not caused by them. Authors should think that no one is winning here. All these poor countries do is to try to survive and try to reduce suffering of the people. (A K M Saiful Islam, Bangladesh University of Engineering and Technology)	Thank you for the comment. We use this term to indicate a successful situation for CC adaptation and development.
339	53107	15	16	37	16	42	This seems to be more relevant to the section on ecosystems. (Kristie L. Ebi, IPCC WGII TSU)	We remain only examples for co-benefit approaches.
340	40913	15	16	42	0	0	Add - "This involves linking with disaster risk reduction strategies, policies, first responder engagement with planning and well as disaster response and attracting committed funding sources (Refs). (Lynn Wilson, SeaTrust Institute)	The sub-section was restructures as new 15.2.3.3., where the paragraph was deleted.
341	44877	15	16	44	16	52	The Humbo project looks very interesting, but how does it address risks from climate change or how will it be resilient as climate and other conditions change? (Joel Smith, Stratus Consulting Inc.)	The sub-section was restructures as new 15.2.3.3., where the paragraph was deleted.
342	53108	15	16	44	16	52	How have future risks been incorporated? (Kristie L. Ebi, IPCC WGII TSU)	The sub-section was restructures as new 15.2.3.3., where the paragraph was deleted. But the future aspect is dealt with in other section.
343	41436	15	17	0	0	0	The sub-chapter could benefit from some reference to stakeholder participation guidance applied by multilateral adaptation funds. For example, the Adaptation Fund has recently strengthened its guidance for stakeholder involvement, see [add references to AF website and GW paper]; interesting in the AF is furthermore that it has set a strategic priority that "special attention should be given to the particular needs of the most vulnerable communities" (see Strategic Priorities, Policies and Guidelines of the AF at <a href="http://www.adaptation-fund.org">www.adaptation-fund.org</a> ; and <a href="http://germanwatch.org/klima/af2010-mvp.pdf">http://germanwatch.org/klima/af2010-mvp.pdf</a> ) (Sven Harmeling, Germanwatch)	Thank you for the suggestions. However, due to space limitation we need to shorten the sub-section, and did not include the references.
344	42868	15	17	1	17	7	Top-down approaches are needed not only through urban institutions but in general. Because climate change brings as yet unforeseen challenges, communities need access to external knowledge to adapt (for example, to new diseases). In addition, community-based adaptation needs enabling policies - for example, efforts to promote a shift to more climate resilient crops can be easily undermined by agricultural policies promoting national crop production targets (such as a given MT of rice) (Sofia Bettencourt, World Bank)	The sub-section was restructures as new 15.2.3.3., where the paragraph was deleted. But top-down/bottom-up issue is mentioned in other parts.
345	53109	15	17	3	17	3	Not just urban. (Kristie L. Ebi, IPCC WGII TSU)	The sub-section was restructures as new 15.2.3.3., where the paragraph was deleted. But urban/rural issue is mentioned in new 15.2.2.4..
346	53110	15	17	7	17	7	Not really discussed, more mentioned. (Kristie L. Ebi, IPCC WGII TSU)	Deleted this sentence.
347	45371	15	17	9	0	12	I would suggest to be either be less confident here, or include references that show that there have indeed been many successes around the world. I know that in Africa it is often very difficult to build up these kind of market-based arrangements. And I would in any case not write 'allowed national economies to develop the full potential of their agricultural sector'. I think there are only few countries in the world that have developed the full potential of their agricultural sector, and it is incorrect to state that this is caused by crop insurance. (Willem Pieter Pauw, German Development Institute (DIE))	We deleted this paragraph by restructuring the sub-section.
348	40318	15	17	9	17	15	Reference needed. (Haseeb Irfanullah, Practical Action)	We deleted this paragraph by restructuring the sub-section.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
349	43439	15	17	9	17	15	However, market mechanisms having potential to address the most vulnerable groups are yet to be tried in mountain regions and is not clear if such groups unless fully subsidised and technically backstopped can continue with such opportunities (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	We deleted this paragraph by restructuring the sub-section.
350	54645	15	17	17	17	17	It may be helpful if the other mechanisms are also explicitly identified. (Monalisa Chatterjee, IPCC WGII TSU)	We deleted this paragraph by restructuring the sub-section, and created a new section 15.2.4.6.
351	40914	15	17	17	17	21	Index insurance and catastrophe risk insurance are not quite that simple; the pros and cons of parametric insurance schemes need to be expanded here. (Lynn Wilson, SeaTrust Institute)	We deleted this paragraph by restructuring the sub-section.
352	42869	15	17	17	17	21	See comments above on the Caribbean Facility - it should not be mentioned as an example of agriculture insurance (it is not). The Facility uses a variety of parametric triggers depending on the type of disaster that is being insured (e.g. earthquake, cyclone, etc) - not only rainfall. (Sofia Bettencourt, World Bank)	We deleted this paragraph by restructuring the sub-section.
353	42694	15	17	17	21	17	In Australasia, as a potential example of index insurance initiatives the Insurance Council of Australia is developing a Building Resilience Rating Tool for launch in late 2012. (Adam Davis, Manidis Roberts Pty Ltd)	Thank you for the information, but we deleted this paragraph by restructuring the sub-section.
354	53111	15	17	23	17	25	This is repeated. (Kristie L. Ebi, IPCC WGII TSU)	We deleted the previous one.
355	43440	15	17	33	17	33	Such innovative mechanisms do not last longer as the issue of capacities of local institutions and that of service providers remains an enigma (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	I agree with the review's aspect, but this is supported by a literature, and is still relevant for some places.
356	47921	15	17	36	0	0	The Stakeholder Participation section (15.3.1.4) should include a more general description of what this means, what forms it can take, etc. (Jenny Frankel-Reed, USAID)	We incorporated this to new 15.2.3.4.
357	41605	15	17	36	18	20	A relevant reference is missing here. See: M. Hage, P. Leroy and A.C. Peterseon (2010) Stakeholder participation in environmental knowledge production, Futures, 42: 254-264. This paper provides a guidance for stakeholder participation in environmental knowledge production (including climate adaptation knowledge) and the potential to enhance legitimacy and quality of decision-making processes, especially under conditions of uncertainty. (Peter P.J. Driessen, Utrecht University)	Thank you for the suggestion references, but we deleted this paragraph by restructuring the sub-section.
358	49105	15	17	38	17	44	This section might fit better in under 15.3.1.3 which focuses more on Development, as it does not focus particularly on Stakeholder participation (Oyvind Christophersen, Climate and Pollution Agency)	We think that a section for participatory approach is necessary, and it is now new sub-section of 15.2.3.4. We will make it more appropriate in the next revision.
359	40915	15	17	40	0	0	Delete "other." Climate change is not a social process. (Lynn Wilson, SeaTrust Institute)	We deleted the paragraph.
360	45086	15	17	46	0	0	see also e.g. Brown et al 2010 - self-assessment of adaptive capacity (Brown, P. R., Nelson, R., Jacobs, B., Kocik, P., Tracey, J., Ahmed, M., and DeVoi, P. (2010). Enabling natural resource managers to self-assess their adaptive capacity. Agricultural Systems 103, 562-568.). Park et al 2012 - of small island vulnerability (Park, S., Howden, M., and Crimp, S. (2012). Informing regional level policy development and actions for increased adaptive capacity in rural livelihoods. Environmental Science and Policy 15, 23-37. ) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Thank you for the information on the references, but due to space limitation we did not use them.
361	53112	15	17	49	17	53	These are good points but are not connected to the previous text. (Kristie L. Ebi, IPCC WGII TSU)	We will consider this point in the next revision.
362	48768	15	18	1	0	20	The need of intermediaries (mainly consultants) to understand and use climate data at the local level can be mentioned. For instance the Canadian consortium Ouranos is doing this, by "translating climate information for decision makers" and defines itself as a "boundary organization" ( for advantages of boundary organisations in the case of adaption in California, see Tribbia, J. and Moser, SC. "More than information: what coastal managers need to plan for climate change." Environmental Science & Policy 11, no. 4 (June 2008): 315-328. (ALEXIA LESEUR, CDC Climat Research)	We will consider this point in the next revision.
363	44179	15	18	1	18	20	In section 15.3.1.4 there is discussion on the SEAREG and ASTRA projects and it would be good to update this knowledge. These two projects were followed by a third project, titled Climate Change: Impacts, Costs and Adaptation in the Baltic Sea Region (BaltCICA). There is a book coming out of the project, detailing new participatory methods for engaging stakeholders in adaptation planning. (Sirkku Juhola, Aalto University)	Thank you for the information, but we did not incorporate it for too much focus similar projects.
364	35159	15	18	3	0	20	A further interesting stakeholder process in the Baltic Sea Region that might serve as an example is the "Baltic Challenges and Chances for local and regional development generated by Climate Change", funded by the EU Baltic Sea Region Programme 2007-2013 and aimed at designing a process for local assessment of challenges and chances generated by climate change that was implemented in seven local areas in the Baltic Sea Region and undertaken by a series of stakeholder activities. The assessment framework is presented in Hjerpe M and Wilk J (2010). Baltic Climate Vulnerability Assessment Framework: Introduction and Guidelines. CSPR Briefing No 5. (found at <a href="http://www.cspr.se">http://www.cspr.se</a> ) (Sofie Storbjork, Linkoping University)	Thank you for the information, but we did not incorporate it for too much focus similar projects.
365	42764	15	18	10	18	21	The statement "Throughout the world, crop insurance has allowed national economies to develop the full potential of their agricultural sector by transferring weather-related risks away from the farmer" seems unduly optimistic and is not well-supported. Crop insurance has varied in its success and in some cases has provided perverse incentives, and in many areas is unavailable or its availability is controlled by stakeholders who may have multiple motives, some of which are in tension with resilience. The discussion of index insurance is vastly oversimplified (for example, rainfall is just one example of an index threshold), and should include a discussion of basis risk (or a citation to such a discussion in other chapters). (Sean Hecht, UCLA)	This is for 15.3.1.3 on page 17. This paragraph was deleted.
366	40916	15	18	21	0	0	Consider adding text about the need to make all information locally relevant and direct with scaling up capabilities, and to take advantage of and work with technologies to make both happen. (Lynn Wilson, SeaTrust Institute)	We made new sub-section of 15.2.4.5 Communication Tools, where we describe this aspect to some degree.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
367	41186	15	18	23	0	0	Section 15.3.2 Pg 18 line23– of additional importance to review in this chapter would be those tools that help to provide guidance and define methodologies with which to assess and prioritize the scientific information necessary for adaptation planning. For example, Christie P, Sommerkorn M. 2012. RACER: Rapid Assessment of Circum-arctic Ecosystem Resilience, 2nd Ed. Ottawa, Canada: WWF Global Arctic Programme. 72 p. Brinkham et al. 2012. Climate Change Adaptation Planning for Northwest Skeena Communities. Brinkman Forest Ltd. New Westminster, BC. ( <a href="http://brinkmanforest.com/ffesc/wp-content/uploads/2012/03/Chapter-1.pdf">http://brinkmanforest.com/ffesc/wp-content/uploads/2012/03/Chapter-1.pdf</a> ) (Susan Evans, WWF-Canada)	According to this suggestion, we have added a new section of Communication Tools in 15.2.4.5.
368	42999	15	18	23	0	0	The term 'tools' is used throughout this chapter and elsewhere (see my comment for chapter 15.4.3.3), to describe a range of different products, such as computer software, geographical information systems, methodologies for evaluating costs/benefits, etc. Such diverse use of the term is not helpful. It would be useful to have the use of the term explained at the beginning of the chapter (and also but not exclusively in the Glossary) and/or to limit the term to a particular category of support (e.g. computer programs). (Hartmut Fuenfgeld, RMIT University)	This is an overlap in these sections and in the revision we have tried to limit the use of tools and provided specific explanation for the products adopted.
369	35160	15	18	23	20	2	Somewhere in the section the work done for many years within the UK Climate Impacts Programme needs to be mentioned. There is also a large research programme in the Netherlands "Knowledge for Climate" which seems to resemble the Australian approach presented (p 18 lines 45-48) (Sofie Storbjork, Linkoping University)	UK Climate Impacts Programme is now reviewed on Line 9-10 on p.17.
370	41188	15	18	25	0	0	Section 15.3.2.1 pg 18 line 25 – see also Government of Canada Regional Adaptation Collaboratives program, which supported science research to support creation of adaptation plans ( <a href="http://www.nrcan.gc.ca/earth-sciences/climate-change/community-adaptation/regional-collaborative/48">http://www.nrcan.gc.ca/earth-sciences/climate-change/community-adaptation/regional-collaborative/48</a> ). While this program was instrumental in catalyzing further advancement and generated some comprehensive adaptation plans for regions across Canada, (Brinkham et al. 2012) it is not a sustained source of funds for adaptation and thus has limitations in facilitating implementation of outputs generated. An example of product that resulted from this program is summarized in the following report Brinkham et al. 2012. Climate Change Adaptation Planning for Northwest Skeena Communities. Brinkman Forest Ltd. New Westminster, BC. ( <a href="http://brinkmanforest.com/ffesc/wp-content/uploads/2012/03/Chapter-1.pdf">http://brinkmanforest.com/ffesc/wp-content/uploads/2012/03/Chapter-1.pdf</a> ) (Susan Evans, WWF-Canada)	According to the suggestion, a review is added on Line 12-16 on p.17.
371	42998	15	18	25	0	0	The text presented for this chapter doesn't appear to match well with the suggested scope (how science can/does support adaptation planning and implementation). There is a strong focus on social learning and the role of NGOs, which constitutes an important contribution to the debate and should possibly have its own sub-chapter, and only few paragraphs in this section actually address science/policy interactions for adaptation. Some of the paragraphs seem to be disjointed, e.g. there is an abrupt change of focus from line 27 to line 29. Much of the relevant information on science/policy is contained in the final paragraphs of the chapter (lines 29ff.) and in chapter 15.4.2. There is considerable overlap between these two chapters (15.3.2.1 and some parts of 15.4.2). Furthermore it is not entirely evident why this chapter forms a sub-chapter of 15.3.2 Adaptation Tools and Decision Support. It may be more appropriate to have a chapter on the role of science in adaptation planning and implementation, and build a sub-chapter on decision-support tools within that. (Hartmut Fuenfgeld, RMIT University)	We have taken some considerations of the review and re-structured the chapter by changing Section 15.3.2 to 15.2.4.
372	53113	15	18	27	18	36	This would be a good place to discuss adaptive management. (Kristie L. Ebi, IPCC WGII TSU)	As discussed with Chapter 14, adaptive management addresses this. Chapter 15 addresses mainly adaptive planning and implementation.
373	41187	15	18	30	0	0	Section 15.3.2 Pg 18 line 30 – This section uses the phrasing "complex human-natural world coupled system", which I would think is synonymous with social-ecological system (SES) and suggest replacing with SES to be consistent with other chapters in the report (Ch 19 & 20) and section 15.5.3 pg 34 line 22. (Susan Evans, WWF-Canada)	We have adopted this suggestion and use social-ecological systems throughout the whole chapter.
374	53114	15	18	30	18	30	How know they are on the "right pathway"? (Kristie L. Ebi, IPCC WGII TSU)	We have clarified it by giving more description on the degree and types of feedback mechanisms.
375	40917	15	18	31	18	36	Not only the degree but the types of feedback in the human-natural world systems need to be considered as indicators of concern. Also of note is how those indicators are vetted within various scalar decision making bodies and local communities tasked with implementing actions based on those indicators. (Lynn Wilson, SeaTrust Institute)	This is the same as the last point and we described the types of feedback mechanisms into positive and negative forms in the revised version.
376	42993	15	18	33	18	36	These two sentences are unclear. The second sentence seems to contradict the first one. The example given (Berkhout et al. 2006) does not provide further clarification on the point made, nor does it appear to support the argument. (Hartmut Fuenfgeld, RMIT University)	Clarifications are made for the two sentences now.
377	50879	15	18	33	18	36	These statements could benefit from clarification. For example, it would be helpful to indicate further what is meant by "measures planned" and "by doing so from time to time." Additionally, the author team may wish to avoid use of the word "need" to ensure the formulation would not be interpreted as policy prescriptive. (Katharine Mach, IPCC WGII TSU)	Clarifications are made now these statements.
378	42994	15	18	38	18	38	It is not fully clear how the statement made in the first sentence of this paragraph is supported by the example given in the remainder of the paragraph (U.S. states adapting to climate change), i.e. there is not enough detail about what role science played in the early adaptation processes in these pioneering states. It is also not clear how the U.S. example relates to the role of social learning in the process of integrating science and policy. (Hartmut Fuenfgeld, RMIT University)	A detailed description of the role of science in the early adaptation processes is given in Section 15.3.3.3. Here we just focus on tool development and implementation.
379	45087	15	18	45	0	0	No - NCCARF is not an Australian version of the NSF (that is our ARC): it is a good and appropriate example but wrong description and the source is not clear - see <a href="http://www.nccarf.edu.au">www.nccarf.edu.au</a> (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	We have checked these statements and give correct ones.



#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
380	42995	15	18	45	18	48	This paragraph needs references, and the statements made regarding the programs mentioned need to be clarified by mentioning the programs' names and institutions, e.g. it its present form it can only be assumed that the text is referring to the CSIRO. 'The Australian version of the National Science Foundation' is a U.S.-centric way of explaining the role of an Australian organisation. (Hartmut Fuenfgeld, RMIT University)	We have provided some additional references and give correct statements.
381	53115	15	18	46	18	46	This is very US-centric; please give name of organization. (Kristie L. Ebi, IPCC WGII TSU)	We have corrected the name of the organization.
382	53116	15	18	48	18	48	However, it looks like NCCARF funding will not be renewed. (Kristie L. Ebi, IPCC WGII TSU)	Yes. The Australian government will not renew the program.
383	42695	15	18	50	18	51	It is probably too premature to state that NCCARF has be able to 'mainstream' climate change issues into policies and programs as key industry sectors have yet to be fully engaged at this stage. (Adam Davis, Manidis Roberts Pty Ltd)	We agree and consequently have revised the statements.
384	42996	15	18	50	18	51	While the point made here may be factually correct, the conclusion drawn in this paragraph, i.e. 'this is illustrates a deliberate attempt to facilitate the "mainstream" climate change issues into policies and programs...' is not sufficiently supported by the previous paragraph on Australian adaptation funding. (Hartmut Fuenfgeld, RMIT University)	We agree and consequently have revised the statements.
385	53117	15	19	1	19	11	It would be helpful to clarify that not all sectors are included in these efforts. (Kristie L. Ebi, IPCC WGII TSU)	We agree and consequently have revised the statements.
386	43441	15	19	1	19	27	It is important to report here on Asia. A tremendous amount of work at the national levels after NAPA's were rolled out, is done on setting priorities and funds to look in to sectoral adaptation. We are only limiting so far in Americas and Australia. This needs a more global reproting what is happening. (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	We include now Caribbean practice as well as mountainous areas crossing many countries, such as ICIMOD.
387	54646	15	19	3	19	8	The author team may want to add a table listing all networks discussed in the literature. (Monalisa Chatterjee, IPCC WGII TSU)	It is a good suggestion, but no space. As a result, we do not think it is good to present such a table.
388	53119	15	19	13	19	27	This is more catalogue than evaluation. (Kristie L. Ebi, IPCC WGII TSU)	We have rephrased this section for evaluation.
389	37358	15	19	15	0	0	There is no space when it starts new sentence. (So Kazama, Tohoku University)	A space is provided now.
390	53118	15	19	18	19	18	Please define CAKE. (Kristie L. Ebi, IPCC WGII TSU)	CAKE is the project of Climate Adaptation Knowledge Exchange, and can be found in the web easily.
391	42997	15	19	20	19	27	In addition to Climate Resilient Communities, ICLEI has supported several other country-based regional local government adaptation programs, e.g. in Canada, Australia, Africa and Europe. Only few of these experiences are published in peer-reviewed journals however. The Resilient Cities 2010 and 2011 conference proceedings (Otto-Zimmermann, K. (ed.), 2011 and 2012, Resilient Cities. Springer) contain case studies that have emerged from this body of work. In addition to the guidebook produced with King County, ICLEI Australia and ICLEI Canada have also produced practical guides for adaptation. (Hartmut Fuenfgeld, RMIT University)	According to the implication of the comments, we have revised these statements.
392	49106	15	19	29	19	30	It is unclear whether the sentence says that they do not focus on high-risk areas, or whether it says that they do focus on a few high risk areas. (Oyvind Christophersen, Climate and Pollution Agency)	It certainly focuses on high risk areas. We have clarified this statement now.
393	43442	15	19	29	19	36	ICIMOD's new programmes are clearly designed to link hard science with applied research and a strong link to regional policy arenas through its 8-nation partners. Its new programmes such as HICAP (Himalayan Climate Adaptation Programme) or KSLCI (Kailash Sacred Landscape Conservation Initiative) or earlier mentioned HIMALI, ADAPTHIMAL are all initiatives that need to be considered in IPCC report no 5 (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	According to the comments, we have revised the whole paragraph.
394	53120	15	19	37	19	44	How can these be achieved in developing countries? (Kristie L. Ebi, IPCC WGII TSU)	To reflect how developing countries bacheive this, we have revised the statements and give specific approaches in the revision.
395	53121	15	19	53	19	54	This could be a key finding. (Kristie L. Ebi, IPCC WGII TSU)	This is indeed a key finding so far.
396	53122	15	20	2	20	2	Please describe the Global Framework on Climate Services. (Kristie L. Ebi, IPCC WGII TSU)	No further expansion of the statements are made in order to avoid repeating because the services can be found out from the context of this paragraph.
397	43443	15	20	5	20	19	We have to mention that for instance HKH mountain system has been a blank spot in IPCC 4 Report and since then data collection has increased and diversified but we are no way near to have credible and long term climate data or even cryosphere data to support such decisionmaking tools (which includes atmospheric black carbon data). However, we need to refine GCM fro downscaling and install as much data collection centers as possible in a focused way. Hence currently we are relying more on community science and community based decision-support tools (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	This is a good point and we review this in the following sections.
398	40918	15	20	5	20	33	Section 15.3.2.2 - need to address the issues involved with monitoring including 1)scale 2)feature relevance etc. (Lynn Wilson, SeaTrust Institute)	This is a general comment and we have included this point in our revision.
399	45088	15	20	7	0	0	I would say this is a gross overstatement with many critiques of poorly targeted DSS; it would be better to say that DSS can be valuable when embedded in an appropriate stakeholder or decision-maker process, then the rest of the para is fair! (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	This evaluation is good and we take consideration in the section 15.3.2.1.
400	53123	15	20	7	20	19	But earlier said this was insufficient. (Kristie L. Ebi, IPCC WGII TSU)	This is why we consider it in a different section.
401	43000	15	20	36	0	0	This chapter focuses on a small subset of what is commonly referred to as adaptation decision making tools, e.g. computerised tools. This may be a matter of definition (see previous comment) but many other types of decision making tools exist or are in the process of being developed that don't easily fall into the two clusters of top-down or bottom-up tools, e.g. online guidance portals, online collaborative portals, step-by-step process guides, etc. This chapter could be broadened out to include some of these tools, or else present a more narrow definition of tools upfront. (Hartmut Fuenfgeld, RMIT University)	This is a good point and as stated earlier we added a new section of Communication.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
402	43001	15	20	36	0	0	The term 'decision making tools' suggest that these tools can be used for making decisions. One could argue that this suggests that some form of agency lies within the tools themselves and that the process of making decisions can be 'left to the tool'. This doesn't reflect the reality of political and decision making processes. 'Decision support tools' on the other hand focuses on the tools' abilities to support decision making processes. The latter term may be more appropriate for what is described in this chapter. (Hartmut Fuenfgeld, RMIT University)	Decisions are certainly made not by tools, although it is called decision making tools. Decision making tools provide only support for decision makers. There is no conflict on this.
403	40919	15	20	36	21	11	Section 15.3.2.3 - consider updating this section and its references. Much has happened since 2007 in terms of decision tools, for example. Also newer scholarship and reports emphasize the impacts of the integrated top-down and bottom-up systems across the system. Need to cite these advances, not only in tools but in processes engaging multiple tools and foci, etc. For another area that could benefit from updating in this section, technological, the prevalence of mobile devices in the developing world changes access to information for decision making and links the top down and bottom up systems. (Lynn Wilson, SeaTrust Institute)	There are certainly more and more integrated tools, but due to space limitation, we mainly focus on essential structure of these tools.
404	45089	15	20	45	0	0	Note there is a major review of these tools in Australia and globally emerging from Bob Webb et al at ANU which should be available within a couple of months (bob.webb@anu.edu.au). Also in the draft PROVIA Guidelines ( <a href="http://www.provia-climatechange.org/ABOUT/PriorityActivities/Activity4/tabid/55274/Default.aspx">http://www.provia-climatechange.org/ABOUT/PriorityActivities/Activity4/tabid/55274/Default.aspx</a> ) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	We are waiting for the coming out of the paper and cannot assess it at this stage.
405	45173	15	20	45	20	51	The Higher Ground Foundation ( <a href="http://www.thehighergroundfoundation.org">www.thehighergroundfoundation.org</a> ) is promoting a bottom-up approach to prioritize adaptation projects using calculations of anticipated levels of "vulnerability reduction credits" based on downscaled climate outputs and assessments of the monetized value of interventions to reduce these climate related vulnerabilities, normalized for per capita human vulnerability. The approach was first introduced in Schultz, K., (2012), "Financing climate adaptation with a credit mechanism: initial considerations", Climate Policy Vol. 12, Issue 2, 2012, pages 187-197. Further work is underway that is currently articulated in <a href="http://ecology.wikia.com/wiki/Vulnerability_reduction_credit">http://ecology.wikia.com/wiki/Vulnerability_reduction_credit</a> (Karl Schultz, The Higher Ground Foundation)	This comment is more suitable for other chapters, such as Chapter 18 which focuses financing climate adaptation.
406	45174	15	20	53	21	5	The vulnerability reduction credit, we believe, will be able to aggregate activities for national planning purposes, however it is bottom up and care needs to be taken in ensuring that systemic vulnerabilities. There is a vision for using vulnerability reduction credits to set national targets for supporting climate adaptation in developing countries, and as a tool in national to local government budget planning. See: <a href="http://www.climateadaptationworks.com/ClimateFinanceFuture%20scenariosOptions.pdf">http://www.climateadaptationworks.com/ClimateFinanceFuture%20scenariosOptions.pdf</a> where discussions of national/international climate reserves are articulated. (Karl Schultz, The Higher Ground Foundation)	This is the same as the point before. The comment is more suitable for other chapters, such as Chapter 18 which focuses financing climate adaptation.
407	53124	15	20	54	20	54	Only the behavior of the part of the system that was modeled. (Kristie L. Ebi, IPCC WGII TSU)	This is true at large scales.
408	53125	15	21	1	21	5	There are studies that combined top-down and bottom-up approaches, such as the USAID studies described in a special issue of Climatic Change. (Kristie L. Ebi, IPCC WGII TSU)	We mainly focus on essential structure of these tools, but when there is sufficient space, we will add more about integrated approaches.
409	42870	15	21	17	21	26	See Elrick, C. and Kay, R. 2009. Mainstreaming of an Integrated Climate Change Adaptation Based Risk Diagnosis and Response Process into Government of Kiribati - Final Report. Report prepared for the KAP Project, Phase II. Coastal Zone Management Pty, Ltd Perth, Australia <a href="http://climate.gov.ki/pdf/KAPII/KAPII%20-%20Mainstreaming%20of%20an%20Integrated%20CCA%20Based%20Risk%20diagnosis%20&amp;%20response%20process%20-%20Government%20of%20Kiribati%20-%20Jan%202010.pdf">http://climate.gov.ki/pdf/KAPII/KAPII%20-%20Mainstreaming%20of%20an%20Integrated%20CCA%20Based%20Risk%20diagnosis%20&amp;%20response%20process%20-%20Government%20of%20Kiribati%20-%20Jan%202010.pdf</a> for an example of a simple adaptation decision making process developed in Kiribati (Sofia Bettencourt, World Bank)	We mainly focus on essential structure of these tools, but when there is sufficient space, we will add more about integrated approaches.
410	53126	15	21	27	21	27	There should be discussion of international organizations such as FAO and WHO, as well as NGOs. They provide guidance documents, capacity building, etc. (Kristie L. Ebi, IPCC WGII TSU)	The role of international organizations has been discussed in section 2.2.1.
411	42871	15	21	29	0	0	Add to these instruments contingency funds at the local government or community level. These can serve as an important safety net to prepare for annual seasons. (Sofia Bettencourt, World Bank)	The topic on crop insurance and the index-based insurance mechanism has been added.
412	53127	15	21	29	0	0	This section could be more appropriate in 15.3.2. (Kristie L. Ebi, IPCC WGII TSU)	We will consider this suggestion in the next review of this section.
413	40920	15	21	29	21	42	Section 15.3.2.5 is very think and needs considerable development. (Lynn Wilson, SeaTrust Institute)	We have added more content.
414	49107	15	21	29	21	42	Consider to couple this with the two sections on page 17, line 9 to 21 which is also about the benefits of insurance systems. (Oyvind Christophersen, Climate and Pollution Agency)	The section has been rearranged to incorporate your suggestion.
415	54647	15	21	29	21	42	The discussion on insurance has been included in several places in the chapter, to reduce repetition the chapter team may add a separate section to present all the findings in this topic. (Monalisa Chatterjee, IPCC WGII TSU)	The chapter has been restructured in this way.
416	48769	15	21	39	0	42	The huge interest of re-insurers for climate issues can be mentioned, and see also chapter 10. (ALEXIA LESEUR, CDC Climat Research)	This aspect has been added.
417	41601	15	21	45	21	45	In this section different concepts are used for the same phenomenon: capabilities, institutional arrangements and institutional capacities. The exact meaning of these concepts is not always clear. See also my first general remark. (Peter P.J. Driessen, Utrecht University)	Our usage of the terms are consistent with the overall glossary.
418	41437	15	22	0	0	0	a further helpful reference considering the institutional interplay between the national and the international level is [ <a href="http://germanwatch.org/klima/ad-inst.pdf">http://germanwatch.org/klima/ad-inst.pdf</a> ] (Sven Harmeling, Germanwatch)	Thank you, we will consider this reference in our next revision of the chapter

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
419	48770	15	22	0	23	0	In this section, one can also mention the results of the ONERC report of the French environment ministry (ONERC, Cities and adapting to climate change, 2010, La documentation française, Paris) : several cases studies in France and over the world indicate that "adaptive implementation in cities will require input at national level, in particular for the supply of tools, incentives and common methodological frameworks that can be revised and adjusted in the light of information gained from the stakeholders concerned", like methodological guides, vulnerability diagnostics, cost estimates, climate services, and the sharing of experience and training. (ALEXIA LESEUR, CDC Climat Research)	Can you please provide us with the complete reference of these studies in order to consider them in the next draft of this chapter
420	41383	15	22	1	22	1	Add that most institutions (incl. Multilateral organizations) are build on conservative, past-oriented institutional structures that are not made for tackling/dealing with cross-sectoral/long-term challenges such as climate change. (Sven Harmeling, Germanwatch)	This is an important point. We would be grateful if you could suggest references documenting this problem
421	53128	15	22	1	22	4	This should consider how to handle cross-sectoral issues. (Kristie L. Ebi, IPCC WGII TSU)	Please suggest references documenting this issue
422	38581	15	22	2	22	2	In the U.S. and many other countries the standards are developed in the private sector by consensus procedures and then referenced or adopted by governments in regulations - see www.standards.gov (Richard Wright, Retired, U.S. National Institute of Standards and Technology)	Thank you for your comment.
423	53129	15	22	13	22	14	This also requires collaboration. (Kristie L. Ebi, IPCC WGII TSU)	The text has been revised to incorporate this perspective.
424	35161	15	22	19	23	26	Previous studies analysing the intricacies of institutional processes in climate adaptation are also, besides those already quoted: Ivey, J. L., Smithers, J., de Loë, R. C. & Kreutzweiser, R. D. (2004), Community Capacity for Adaptation to Climate-Induced Water Shortages: Linking Institutional Complexity and Local Actors, Environmental Management, 33, pp. 36-47. Tompkins, E. (2005), Planning for climate change in small islands: Insights from national hurricane preparedness in the Cayman Islands, Global Environmental Change, 15, pp. 139-149. Næss, L. O. et al 2005. Institutional adaptation to climate change: Flood responses at the municipality level in Norway. Global Environmental Change 15, 125-138, Crabbé, P. & Robin, M. (2006), Institutional adaptation of water resource infrastructures to climate change in eastern Ontario, Climatic Change, 78, pp. 103-133. Pahl-Wostl 2009, A conceptual framework for analysing adaptive capacity and multi-level learning processes in resource governance regimes. Global Environmental Change 19, 354-365, Gupta, J et al 2010. The Adaptive Capacity Wheel: a method to assess the inherent characteristics of institutions to enable the adaptive capacity of society. Environmental Science & Policy 13, 459-471. Glaas, E. et al, 2010. Managing climate change vulnerabilities: formal institutions and knowledge use as determinants of adaptive capacity at the local level in Sweden. Local Environment 15, 525-539, Storbjörk S and J Hedrén (2011), "Institutional capacity-building for targeting sea level rise in the climate adaptation of Swedish coastal zone management. Lessons from Coastby". Ocean and Coastal Management Vol. 54, No 3, 265-273. Measham et al 2011, Adapting to climate change through local municipal planning. barriers and challenges. Mitigation and Adaptation Strategies for Global Change 16, 889-909. (Sofie Storbjork, Linköping University)	We added a number of these references in the SOD (page 21)
425	49108	15	22	19	23	26	This section 15.4.1.1 seems not to represent a good geographical balance. There are some references to study of Durban and Quito which leaves an impression of positive examples of successful institutional arrangement. While the majority of the section refers to studies mainly in Northern Europe and describes difficulties in adaptation planning at local level. Would there for instance be more references to developing countries? (Oyvind Christophersen, Climate and Pollution Agency)	The text has been modified to reflect a broader international perspective (pages 21 and 22 in the SOD)
426	53130	15	22	24	22	25	This is unclear. (Kristie L. Ebi, IPCC WGII TSU)	The text has been modified and this sentence deleted
427	42765	15	22	39	22	42	This statement is poorly supported and is (1) a minor point in the context of insurance that is given undue importance here, and (2) not representative of actual conditions, in the sense that typically small insurers purchase reinsurance and are subject to capital requirements by their regulators. (Sean Hecht, UCLA)	The page and lines suggested address the section on institutional arrangements not the insurance issue.
428	45458	15	22	49	23	12	For a developing country example (i.e., the Philippines) of 'national requirements or guidelines to help local governments integrate climate change into spatial planning', see Kehew, Robert et al. 2013. "Formulating and implementing climate change laws and policies in the Philippines, Mexico (Chiapas), and South Africa: A local government perspective". Local Environment: The International Journal of Justice and Sustainability". Forthcoming. (An earlier version of this paper appears as Kehew, Robert et al. 2012. "Urban climate governance in the Philippines, Mexico and South Africa: National- and State-Level Laws and Policies", in Otto-Zimmermann, Konrad, ed. 2012. Resilient Cities 2: Cities and Adaptation to Climate Change: Proceedings of the Global Forum 2011. Dordrecht: Springer, 305-316.) (Rafael Tuts, United Nations Human Settlements Programme)	We will include these references in the next revision of this section
429	53131	15	23	24	23	25	This approach should inform earlier discussions (Kristie L. Ebi, IPCC WGII TSU)	The text was modified to increase coherence
430	37165	15	23	29	0	0	Consider some of the experiences of the INAP project for spatial planning at municipal level, already mentioned in line 23 and in : Andrade Pérez, A., Herrera Fernandez, B. and Cazzolla Gatti, R. (eds.) (2010). Building Resilience to Climate Change: Ecosystem-based adaptation and lessons from the field. Gland, Switzerland: IUCN. 164pp. (Angela Andrade, Conservation International Colombia)	We will include these references in the next revision of this section
431	41384	15	23	29	23	29	As this section also particularly deals with social learning it would be advisable to put this into the title. (Sven Harmeling, Germanwatch)	Thank you for your comment.
432	45459	15	23	29	24	18	For discussions of: (i) different approaches to regulating development adjacent to water bodies or within flood risk zones, and (ii) incorporating climate change projections into such regulations, see forthcoming Policy Notes No. 3 and 4, to be released by the UN-Habitat Cities and Climate Change Initiative prior to 31 December 2012 (see www.unhabitat/cci, and search under 'publications'). (Rafael Tuts, United Nations Human Settlements Programme)	We will incorporate these new references in the next revision of this section.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
433	35162	15	23	31	0	0	On the role of spatial planning (both the need of and the complexities involved) see also: Wilson, E. (2006), Adapting to Climate Change at the Local Level: The Spatial Planning Response, Local Environment, 11, pp. 609-625. Here perhaps refer back to the section on planning and the already referred literature (p 7, lines 24-40). (Sofie Storbjork, Linkoping University)	The reference has been incorporated in the SOD (page 22 line 7)
434	48771	15	23	33	0	53	The possibility of leaving some areas to the sea could be mentioned (ALEXIA LESEUR, CDC Climat Research)	We are sorry, we could not identified what part of the text your comment refers to
435	44404	15	23	43	0	0	The role of social learning is mentioned briefly in this part, needs to be coordinated with the text on page 8. (Linda Sygna, University of Oslo)	Thank you for your comment. We have modified the ext to improve coherence following this and other similar comments
436	53132	15	23	46	23	53	Some of this is repeated elsewhere. (Kristie L. Ebi, IPCC WGII TSU)	The text has been modified to avoid duplication
437	43444	15	23	53	23	53	We have to consider the issue of screening tools that allow us to gauge whether chances of mal-adaptation are minimised, and these are lacking as yet (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	We would appreciate if you could provide concrete reference addressing this point.
438	53133	15	23	54	23	54	Perhaps there could be a section on social learning? (Kristie L. Ebi, IPCC WGII TSU)	We discussed this possibility and we agreed it was not necessary to add one more section on social learning
439	35581	15	24	3	0	8	The Anguelovski and Carmin study sounds like it is worth a fuller discussion (Daniel Farber, UC Berkeley)	Thank you for this suggestion. We will consider this issue in the next review of this section.
440	35163	15	24	3	0	9	With reference to comment no 3 it needs to be made clear that the Anguelovski and Carmnin-study refers to mitigation when speaking of these dedicated climate units. Both of the sections on page 24 lines 1-18 seems to refer more to institutions (section 15.4.1.1) than to spatial planning (5.4.1.2). This comment returns later on page 24 (lines 52-54) which also needs to be clarified. (Sofie Storbjork, Linkoping University)	Thank you for this suggestion. We will consider this issue in the next review of this section.
441	53134	15	24	11	24	18	This is not about spatial planning, so it is not clear why it is here. (Kristie L. Ebi, IPCC WGII TSU)	Text has been modified to improve coherence in this section
442	54648	15	24	11	24	18	It is unclear how operational structures of institutions fits into the discussion on 'role of spatial planning'. Perhaps this discussion could be included in section 15.6.9. (Monalisa Chatterjee, IPCC WGII TSU)	Yes, we agree. Text has been modified to improve coherence
443	41385	15	24	17	24	17	After ... and institutional networks....add "and stakeholder dialogues". (Sven Harmeling, Germanwatch)	Thank you for this suggestion. We will consider this issue in the next review of this section.
444	46698	15	24	21	0	0	Section 15.4.1.3: Better examples should be given in this section. (Atiq Kainan Ahmed, Asian Disaster Preparedness Center (ADPC))	Thank you for this suggestion. We will consider this issue in the next review of this section.
445	41438	15	24	21	24	45	The chapter misses to address an important international institutional arrangement for DRR, namely UNISDR. What could also be address is the new institutional arrangement under UNFCCC, the Adaptation Committee, which inter alia should establish linkages to other institutional approaches inside and outside the Convention. More information on the Adaptation Committee could be found here: <a href="http://php">http://php</a> (Sven Harmeling, Germanwatch)	Thank you for pointing this out. We agree the text needs to incorporate a discussion of the potential linkages between the UNISDR and the CCA agendas. This will be done in the next review of this section
446	35582	15	24	23	0	37	this is a disturbing finding -- I hope it is highlighted (Daniel Farber, UC Berkeley)	Thank you for your comment.
447	53135	15	24	23	24	25	This is repeated. (Kristie L. Ebi, IPCC WGII TSU)	Text has been modified to improve coherence and avoid duplication
448	41386	15	24	23	24	37	As this paragraph talks about adaptation and DRR it would be good to clearly differentiate those two by giving a definition and pointing out the discrepancies; the IPCC SREX could likely be helpful here. (Sven Harmeling, Germanwatch)	Thank you for pointing this out. We will incorporate a discussion of the differences between the DRR and the CCA agendas. This will be done in the next review of this section
449	42872	15	24	23	24	37	The upcoming new international agreement on climate change (through UNFCCC) and potential renewal of Hyogo Framework provide major opportunities to harmonize CCA/DRM since it is largely as a result of Kyoto and Hyogo mandates that dichotomous institutions have been created at the national levels. At first the motivation was personal, as the respective UNFCCC and Hyogo focal points enjoyed considerable benefits from the status quo (e.g. travel, career opportunities, and access to external funds). However, in many countries, international pressure to draft separate disaster and adaptation strategies and policies has now become enshrined in divergent laws, creating further obstacles to institutional integration. It is therefore critical that international bodies (UNFCCC and UNISDR, in particular) and donors consistently promote this integration. Examples where integration of CCA and DRM are being attempted include the Pacific Island Region, Madagascar and Zambia (Sofia Bettencourt, World Bank)	We agree. We will incorporate a discussion of the differences between the DRR and the CCA agendas. This will be done in the next review of this section
450	37359	15	24	24	0	0	DRR has been defined earlier at Page 15, Line 16. (So Kazama, Tohoku University)	Thank you for your comment. We will incorporate the suggestion in the next draft
451	40921	15	24	28	0	0	Add after "spatial planning" - in conjunction with capacity building (Lynn Wilson, SeaTrust Institute)	Thank you for your comment. We will incorporate the suggestion in the next draft
452	35583	15	24	39	0	44	The Vietnam study sounds useful and a potential qualification on the statements in the previous paragraph -- a little more detail would be helpful (Daniel Farber, UC Berkeley)	Thank you for your comment. We will incorporate the suggestion in the next draft
453	53136	15	24	39	24	54	What about rural issues? (Kristie L. Ebi, IPCC WGII TSU)	a section has been added on rural issues in the SOD
454	43445	15	24	44	24	44	DRR to great extent has been now delegated to subnational levels in several South Asian states, but these are hardly effective or mostly supply driven. (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	No action needed
455	41189	15	24	47	0	0	Section 15.4.1.4 pg24 line47 – An additional resource Cook, J., S. Freeman, E. Levine, and M. Hill. 2011. Shifting Course: Climate Adaptation for Water Management Institutions. World Wildlife Fund US. Washington, DC. 69p. Also found at <a href="http://www.adaptiveinstitutions.org">www.adaptiveinstitutions.org</a> , which has further information on the case studies found in the report as well. (Susan Evans, WWF-Canada)	Thank you, we will consider these references in our next revision of the chapter

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
456	42873	15	24	47	0	0	The need for enhanced institutional capacity is not only for municipalities/urban areas but also for local governments in rural areas. The section and/or title should be edited accordingly. (Sofia Bettencourt, World Bank)	We agree. We will include rural areas in the discussion in the next review of this section
457	54649	15	24	47	0	0	The author team should synthesize findings from different studies and provide all relevant references assessed in the section. (Monalisa Chatterjee, IPCC WGII TSU)	We will continue to improve this section
458	35164	15	24	47	26	6	The content of section 15.4.1.4 and 14.4.1.1 needs to be better coordinated as both concern institutional capacity and similar points are raised under the sections (Sofie Storbjork, Linkoping University)	We have modified the text to build coherence with chapter 14
459	41439	15	24	49	0	0	why pick out urban areas here? (Sven Harmeling, Germanwatch)	The text has been revised.
460	43002	15	24	52	24	54	This appears to misquote the original source, which says that: 'One aspect of formalization is the establishment of dedicated climate units, either within a relevant department or as separate and cross-cutting office.' (Anguelovski and Carmin 2011: 170). The way this is represented in the FOD suggests that local governments either set up dedicated (implying: separate) climate units or cross-cutting units at the Mayor's office. (Hartmut Fuenfgeld, RMIT University)	Text will be modified to correct this issue
461	45460	15	24	52	24	54	For a developing country example (i.e., Maputo, Mozambique) of a local government institutionalizing its adaptation strategy, see Broto, Vanese Castan et al. 2013. "Climate change adaptation, local governance and poverty alleviation in Maputo". Local Environment: The International Journal of Justice and Sustainability. Forthcoming. (Rafael Tuts, United Nations Human Settlements Programme)	Thank you for this suggestion. We will incorporate it in the next review of this section.
462	53137	15	24	52	24	54	This is repeated. (Kristie L. Ebi, IPCC WGII TSU)	text has been modified to avoid duplication
463	43144	15	25	0	0	0	Section 15.4.1.4. At the end of the section, is the statement inferring that initial steps for adaptation have been taken by some local and national Govts. in developed and developing countries is representative of considerable no. of nations from different parts of the world. (SHAHBAZ MEHMOOD, Global Change Impact Studies Centre)	Thank you for this suggestion. We will incorporate it in the next review of this section.
464	41190	15	25	3	25	5	Section 15.4.1.4 pg 25 line 3-5 – I would add 'environmental' to this list of organizations. (Susan Evans, WWF-Canada)	Thank you for your comment. We will incorporate the suggestion in the next draft
465	50880	15	25	9	25	9	"likely" -- The author team should avoid casual usage of this reserved likelihood term. (Katharine Mach, IPCC WGII TSU)	text has been modified to avoid this problem
466	45461	15	25	12	25	14	For an analysis of different modes of urban climate governance in multi-level systems as applied to three countries, see Kehew, Robert et al. 2013. "Formulating and implementing climate change laws and policies in the Philippines, Mexico (Chiapas), and South Africa: A local government perspective". Local Environment: The International Journal of Justice and Sustainability". Forthcoming. (An earlier version of this paper appears as Kehew, Robert et al. 2012. "Urban climate governance in the Philippines, Mexico and South Africa: National- and State-Level Laws and Policies", in Otto-Zimmermann, Konrad, ed. 2012. Resilient Cities 2: Cities and Adaptation to Climate Change: Proceedings of the Global Forum 2011. Dordrecht: Springer, 305-316.) (Rafael Tuts, United Nations Human Settlements Programme)	We will include these references in the next revision of this section
467	53138	15	25	18	25	21	This section is not just about urban issues. (Kristie L. Ebi, IPCC WGII TSU)	we will include rural areas in the discussion
468	41387	15	25	19	25	19	Add that those new policies also need to be very local specific. (Sven Harmeling, Germanwatch)	We agree. We will include your comment in the next review of this section
469	35165	15	25	29	0	0	This resembles finding from studies on the adaptive capacity wheel and the need for local leadership which can also be quoted here. See: van den Brink, M. et al 2011. Are dutch water safety institutions prepared for climate change? Journal of water and climate change, p 272-287. Gupta, J et al 2010. The Adaptive Capacity Wheel: a method to assess the inherent characteristics of institutions to enable the adaptive capacity of society. Environmental Science & Policy 13, 459-471. (Sofie Storbjork, Linkoping University)	The suggested references have been added to the text
470	53139	15	25	29	25	31	This is unclear. (Kristie L. Ebi, IPCC WGII TSU)	The chapter has been restructured.
471	43446	15	25	33	25	41	There is already a substantial evidence on community based adaptation planning and use of local knowledge and we should highlight this and not center only around urban areas Ref: Pradhan, NS; Khadgi, VR; Schipper, L; Kaur, N; Geoghegan, T (2012) Role of Policy and Institutions in Local Adaptation to Climate Change – Case studies on responses to too much and too little water in the Hindu Kush Himalayas. Kathmandu: ICIMOD (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	These references will be considered in the next revision of the chapter.
472	41388	15	25	40	25	40	While international literature has not given much attention to institutional adjustments in community-based adaptation planning, international climate negotiations have neither. It would be good to point this out. (Sven Harmeling, Germanwatch)	We will include this point in the next revision of this section
473	38582	15	25	43	25	53	Can cite the World Business Council for Sustainable Development as a great source for responsible private sector initiatives (www.wbcsd.org) (Richard Wright, Retired, U.S. National Institute of Standards and Technology)	Can you suggest a particular reference illustrating the role of this organization in adaptation planning
474	49109	15	25	48	25	48	The "Stern Review" has no reference. (Oyvind Christophersen, Climate and Pollution Agency)	We have revised the text to remove this topic.
475	53140	15	25	48	25	48	A reference is needed. (Kristie L. Ebi, IPCC WGII TSU)	We have revised the text to remove this topic.
476	50881	15	25	49	25	49	"unlikely" -- If this term is being used per the uncertainties guidance for authors (reflecting a probabilistic basis for its assignment), it should be italicized. The author team should avoid casual usage of this reserved likelihood term. (Katharine Mach, IPCC WGII TSU)	The text has been modified to avoid this problem.
477	50882	15	26	1	26	6	The author team may wish to consider assigning calibrated uncertainty language for the statements to reflect its degree of certainty in them. Summary terms for evidence and agreement or levels of confidence may be particularly appropriate. Additionally, the author team might consider rephrasing the sentence spanning lines 3-4 to avoid potential interpretations of policy prescription. One option would be to provide further detail on why more attention would be beneficial. (Katharine Mach, IPCC WGII TSU)	text has been modified to avoid this problem

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
478	43447	15	26	6	26	6	We are still in infancy in getting business community engaged in adaptation. However, few examples of adaptation in agribusiness sector in mountain are good lessons. However also business sector needs right dose of awareness on what climate change costs/benefits are if not tackled or not engaged with. (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you for your comment. We would appreciate if you could suggest specific references.
479	53141	15	26	7	26	7	What about international organizations, such as FAO and WHO. (Kristie L. Ebi, IPCC WGII TSU)	We will consider this suggestion in the next review of this section
480	41440	15	26	15	0	0	what could be addressed here as well is the need for knowledge management of experience and lessons learnt in international adaptation funding. The Adaptation Fund, for example, has established a knowledge management strategy which requires all project proponents to early-on incorporate in their projects approaches how to capture such experience and to report on it (see <a href="http://www.adaptation-fund.org">www.adaptation-fund.org</a> ) (Sven Harmeling, Germanwatch)	Adaptation funds have been discussed in section 2.2.1.
481	47699	15	26	27	0	0	It is unclear how the following statement related to the statement that comes before it in the text. Several researches indicated the autonomous adaptation to climate change of many animals and plants (Mastrandrea et al., 2010, Tingley et al., 2009). The integration into a common platform of an economic optimization model and a hydrology model, WEAP (Water Evaluation And Planning system), is used to analyze the spatial and temporal effects of different water and agricultural policies under different climate scenarios. It permits the prediction of different climate and policy outcomes across farm types (water stress impacts and adaptation) at basin level (aquifer recovery), and along the policies' implementation horizon (short and long run) (Varela-Ortega et al., 2010). (Bob Pokrant, Curtin University)	Thank you we'll consider it the revised version
482	43448	15	26	27	26	28	It is not easy so far, especially in direct human impacted ecosystems to separate manmade ecosystem degradation from climate change impacts, we need more experimental science here, including in mountains (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you we'll consider it the revised version
483	41191	15	26	36	0	0	Section 15.4.2.2 pg 26 line 36 – I think this section should recognize that there are established early warning systems in place for monitoring ecological change that are in use, and could be used as a basis for which to improve upon, such as the Mesoamerican Coral Reef Watch Program <a href="http://www.marcoralwatch.net/en/home.php">http://www.marcoralwatch.net/en/home.php</a> (Susan Evans, WWF-Canada)	Please make this comment again in SOD.
484	46699	15	26	36	0	0	Section 15.4.2.2: Further narration is needed with better examples of Early Warning Systems (EWS) in this section. The discussions on the global Climate Services can also be linked up with this section. UNFCCC NAPA website has also one section where the EWSs prioritized in the NAPA are identified clearly. This could be a good input to this section. (Atiq Kainan Ahmed, Asian Disaster Preparedness Center (ADPC))	More information is added to this section
485	54650	15	26	36	0	0	The author team may consider adding a table with examples of early warning information systems. It would also be useful if the enabling factors and drivers were identified for each case. (Monalisa Chatterjee, IPCC WGII TSU)	Thank you for suggestion. We are thinking about that but the length for writing is rather limited
486	46093	15	26	38	26	44	I definitely disagree with this statement and it contradicts the conclusions of SREX (IPCC 2012) (Luis E. Garcia, World Bank)	The writing was revised
487	53142	15	26	39	26	39	Not just ecosystems. (Kristie L. Ebi, IPCC WGII TSU)	The writing was revised
488	53143	15	26	42	26	44	This would be a good place to discuss adaptive management. (Kristie L. Ebi, IPCC WGII TSU)	We'll consider to include it in the SOD
489	49110	15	26	43	26	43	The statement "However, the need for precise climate information is often overstated." should be elaborated. (Oyvind Christophersen, Climate and Pollution Agency)	The writing was revised
490	47700	15	26	43	26	44	Why is the need often overstated? " However, the need for precise climate information is often overstated (Smith et al, 2009)." (Bob Pokrant, Curtin University)	The writing was revised
491	53144	15	26	54	26	54	Please provide an evaluation. (Kristie L. Ebi, IPCC WGII TSU)	We considered it in the SOD
492	42874	15	27	3	0	0	You may want to mention here the growing importance of crowdsourcing platforms in adaptation and disaster risk management (including participatory freeware such as Open Street Map, Ushahidi and FrontlineSMS amongst others). An example is Map Kibera, a community mapping and social accountability initiative in Nairobi's largest slum. See <a href="http://mapkibera.org">http://mapkibera.org</a> (Sofia Bettencourt, World Bank)	Thank you
493	45462	15	27	17	27	35	"Visualization of sea level rise" or other climate change impacts can be either scientific or simplistic. Simplistic, non-scientific models may have a role to play, e.g., in early sensitization of communities to possible future scenarios. At the same time, however, this paragraph of the Assessment should point out that other applications (e.g., dimensioning 'climate-proofed' infrastructure, zoning for appropriate land uses in flood-prone areas) require more serious, scientifically-based modeling, e.g., hydrological modelling. (Rafael Tuts, United Nations Human Settlements Programme)	We'll consider to include it in the SOD
494	53145	15	27	24	17	25	What successful assessments were produced? (Kristie L. Ebi, IPCC WGII TSU)	It helps strengthening public awareness, relating to next sentence
495	53146	15	27	31	27	35	Identification of specific best practices would be appreciated. (Kristie L. Ebi, IPCC WGII TSU)	We'll consider to include it in the SOD
496	43449	15	27	35	27	35	We need to add that several user-interfaced data portals are now common and this can be used by a range of stakeholders. ICIMOD is operating one for the HKH region web link: <a href="http://www.icimod.org/?q=471">http://www.icimod.org/?q=471</a> (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	We'll consider to include it in the SOD
497	43450	15	27	38	27	50	Introducing climate change proof varieties/use of pesticides is now in conflict in several places in the HKH as the promotion of organic agriculture and green economy is also simultaneously seen as climate change adaptation activities (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you for suggestion.
498	53147	15	27	43	27	50	This does not logically belong here. (Kristie L. Ebi, IPCC WGII TSU)	The writing was revised

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
499	37703	15	27	50	0	0	Comment 1: I think providing a example methodology for providing resilience would be useful here. Add(?):Through the U.S. Department of Homeland Security, the National Infrastructure Simulation and Analysis Center (NISAC) used their disaster response experience to develop methods for establishing the cost an benefit of resilience investments for natural-disaster events (Vugrin et al., 2011) as well as the optimal strategies for the resilience of networked infrastructure, such as transportation (Vugrin et al., 2010). (George Backus, Sandia National Laboratories)	Thank you for suggestion.
500	37704	15	27	50	0	0	Comment 2: [Vugrin, E. D. M. A. Turnquist, and N.J.K. Brown, 2010: Optimal Recovery Sequencing for Critical Infrastructure Resilience Assessment, Report SAND2010-6237, Infrastructure and Economic Systems Analysis Department, Sandia National Laboratories, Albuquerque, New Mexico. Available at: <a href="http://prod.sandia.gov/techlib/access-control.cgi/2010/106237.pdf">http://prod.sandia.gov/techlib/access-control.cgi/2010/106237.pdf</a> ] [ Vugrin E.D., D.E. Warren, and M.A. Ehlen, 2011: A resilience assessment framework for infrastructure and economic systems: Quantitative and qualitative resilience analysis of petrochemical supply chains to a hurricane. Process Safety Progress, 30(3), 280–290 DOI: 10.1002/prs.10437] (George Backus, Sandia National Laboratories)	Thank you for suggestion.
501	37360	15	28	5	0	0	Please explain what kind of varieties are talking here. (So Kazama, Tohoku University)	The writing was revised
502	53148	15	28	11	28	13	Also need data collection. (Kristie L. Ebi, IPCC WGII TSU)	We'll consider to include it in the SOD
503	37732	15	28	20	28	26	I don't think that technology choices can contribute to risk exacerbation. Rather than that, technology choices are absolutely necessary, not only in considering frequently-occurring hazards, but also in considering unprecedented hazards. For example, at the reconstruction stage after the Great East Japan Earthquake, Japanese Government needs to consider so many technologies to encounter the unprecedented tsunami. cf. (Central Disaster Management Council Japan, 2011. Report of the Committee for Technical Investigation on Countermeasures for Earthquake and Tsunamis Based on the Lessons Learned from the "2011 off the Pacific coast of Tohoku Earthquake") (Tsuneyoshi Mochizuki, Japan River Association)	We'll consider in the SOD
504	35584	15	28	23	0	0	I don't know what "tenacious" means here or why it is a problem (Daniel Farber, UC Berkeley)	The writing was revised
505	37361	15	28	24	0	26	Please give some example (So Kazama, Tohoku University)	The writing was revised
506	41441	15	28	36	28	46	While the section addresses the technology-related work under UNFCCC and misses out to address the recent developments on the establishment of the technology mechanisms, including a Technology Executive Committee and the process towards setting up a Climate Technology Centre and Network (see UNFCCC website) (Sven Harmeling, Germanwatch)	We'll consider in the SOD
507	40922	15	28	44	28	46	Consider rewriting or changing this statement. As it reads, it can be interpreted as inflammatory to some important constituencies, by stating that the public sector regulates and the private sector pays. It would be preferable to characterize a collaboration between the two that engages private interests in regulatory planning and possibly even activities, particularly if ongoing funding is expected. This sensitivity is real and should be attended to at least as much as other groups' sensitivities for inclusion - particularly since financial contribution by the private sector is key to climate change finance schemes. (Lynn Wilson, SeaTrust Institute)	We'll consider in the SOD
508	47701	15	28	49	0	0	15.4.2.6. Education and Training. It might be useful to consider education for climate change as starting at primary school. This will make it easier for young people to develop the skills and knowledge in a general sense of climate change that will have pay-offs in later years in terms of information flow, acceptance of the climate change issues etc.... (Bob Pokrant, Curtin University)	We'll consider in the SOD
509	40924	15	28	49	29	15	Section 15.4.2.7 might add a discussion of the issues of interdisciplinarity in capacity development education. (Lynn Wilson, SeaTrust Institute)	We'll consider in the SOD
510	35166	15	28	51	29	2	The concept "climate science translators could perhaps be linked to the theoretical discussion on intermediaries or knowledge brokers? See e.g. Meyer, M 2010, The Rise of the Knowledge Broker, Science Communication 32: 118-127. The work by Tàbara et al 2010, The Climate Learning Ladder, Env. Policy and Gov. 20: 1-11 might also be useful to refer to in this section as well as Cots et al 2009. Cross-border organisations as an adaptive water management response to climate change: the case of the Guadiana river basin. Environment and Planning C, 27, 876-893. (Sofie Storbjork, Linkoping University)	We'll consider in the SOD
511	40923	15	28	52	0	0	Education and training extends far beyond translation. In fact, both scholars and practitioners are far from universally supportive of science "translation," as the advisable approach at all. The National Association of Science Writers for example has moved the conversation among science journalists to a point of being true educators rather than translators. Translation is not an appropriate model to suggest in the AR5, and is not the state of practice or scholarship in 2012 and beyond. (Lynn Wilson, SeaTrust Institute)	Thank you for comment. We'll consider it in the SOD
512	53149	15	29	1	29	4	Boundary organizations could be discussed here. (Kristie L. Ebi, IPCC WGII TSU)	We'll consider in the SOD
513	53150	15	29	6	29	6	Proactive or reactive adaptation? (Kristie L. Ebi, IPCC WGII TSU)	We'll consider in the SOD
514	54651	15	29	18	0	0	Section 15.4.2.7. The author team may consider cross referring to discussions on local and traditional knowledge in chapters 14, 16. (Monalisa Chatterjee, IPCC WGII TSU)	We'll consider in the SOD
515	43451	15	29	18	29	51	Need to add responses of communities in mountain ecosystems when climate change is visibly a problem and causes problems. Several responses such as water-sharing/rationing, pricing, timesharing in crops, livestock selling, etc. are known, the last resort is certainly migration. Such stories are emerging now as drying of few springs in some of the places has meant shifting of the whole village to lower areas with more water. It is not so clear whether such a migration is permanent or not. Nevertheless, it is an enigma as to how much we can introduce from outside and how much traditional practice can be compromised in an adaptation plan. However, it also remains an issue whether or how such plans can be made inclusive and integrated (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you for comment. We'll consider it in the SOD

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
516	37362	15	29	20	0	21	please explain what kind of local and traditional knowledge was utilized in the coastal zone of Vietnam. (So Kazama, Tohoku University)	The writing was revised
517	41389	15	29	20	29	51	It would be good if you would add how local knowledge from developing countries might be usefully applied to climate change adaptation planning in developed countries. (Sven Harmeling, Germanwatch)	We'll consider in the SOD
518	53151	15	29	23	29	23	Primacy to what? (Kristie L. Ebi, IPCC WGII TSU)	The writing was revised
519	35585	15	29	26	0	29	it's not clear what the source is for the Oklahoma statement -- the McLennan study cited several lines later? The Dust Bowl was a pretty extreme event, so if farmers did successfully adapt, that would be very meaningful -- I think you should say a little more (Daniel Farber, UC Berkeley)	It is McLeman et al, 2008
520	47703	15	29	45	29	47	It is unclear what is meant by this statement. Does it mean that local level stakeholders are the drivers or that all stakeholders are, whoever they may be? Either way, I am not sure that it is a very informative statement. Adaptation plans in developing countries tend to be stakeholder-driven, and implemented at the local level, where there is ample opportunity to include capacity-building as part of the adaptation plan (Berrang-Ford et al. 2011; Ford et al. 2011). (Bob Pokrant, Curtin University)	Thank you. The writing only tends to indicate the situation of adaptation at local scale in developing countries
521	40319	15	29	51	29	51	A country-wide study in Bangladesh revealed reasonable understanding among the community of climate change and variability and of use of traditional and local knowledge to cope with certain changes. Vast knowledge, for example, exist on indigenous rice varieties suitable under different adverse conditions. Nonetheless, those could not be fostered due to other immediate pressure, like increasing food production for increasing population. Ref.: IUCN, UNEP, UNU, 2009. Biodiversity Conservation and Response to Climate Variability at Community Level. IUCN (International Union for Conservation of Nature), United Nations Environment Programme (UNEP) and United Nations University (UNU), Dhaka, Bangladesh, vi+55 pp. (Haseeb Irfanullah, Practical Action)	Thank you for comment. We'll consider it in the SOD
522	48921	15	30	1	0	0	section 15.4.3 learning & capacity building - may wish to reiterate the need for institutional capacity building, particularly in the context of developing strategies for robust policy making under ongoing uncertainty (p30, lines 14/15) (Leon Soste, Department of Primary Industries, Victoria, Australia)	Thank you for comment. We'll consider it in the SOD
523	38574	15	30	1	15	37	Attention should be given to sustainability rating systems that provide practices (which sometimes are standards) and public recognition for improving sustainability, reducing emissions, and providing adaptation to climate change. U.S. examples are LEED ratings for sustainable buildings and sites (www.usgbc.org), Green Globes ratings for sustainable buildings (www.thegbi.org), the International Green Construction Code (www.iccsafe.org), and Envision rating for sustainable infrastructure (www.sustainableinfrastructure.org) (Richard Wright, Retired, U.S. National Institute of Standards and Technology)	Thank you for comment. We'll consider it in the SOD
524	46700	15	30	3	0	0	Section 15.4.3.1: Cambodia has carried out a good perception study on climate risks which could be referred in this section. <a href="http://www.google.com/url?sa=t&amp;rct=j&amp;q=understanding%20public%20perceptions%20climate%20change%20cambodia&amp;source=web&amp;cd=3&amp;ved=0CE4QFjAC&amp;url=http%3A%2F%2Fwww.camclimate.org.kh%2Fdownload.php%3Ffile%3D4.%2520Research%2520Briefing%2520Eng.pdf&amp;ei=4wgcUKuyGo3lrQeyjYEQ&amp;usq=AFQjCNH1ETvZXI9Vg78W-JltriCx0D05lw">http://www.google.com/url?sa=t&amp;rct=j&amp;q=understanding%20public%20perceptions%20climate%20change%20cambodia&amp;source=web&amp;cd=3&amp;ved=0CE4QFjAC&amp;url=http%3A%2F%2Fwww.camclimate.org.kh%2Fdownload.php%3Ffile%3D4.%2520Research%2520Briefing%2520Eng.pdf&amp;ei=4wgcUKuyGo3lrQeyjYEQ&amp;usq=AFQjCNH1ETvZXI9Vg78W-JltriCx0D05lw</a> (Atiq Kainan Ahmed, Asian Disaster Preparedness Center (ADPC))	Thank you
525	54652	15	30	3	0	0	The author team may wish to make the 'perception' aspects more explicit in the section. (Monalisa Chatterjee, IPCC WGII TSU)	We'll consider it in the SOD
526	41390	15	30	5	30	39	Those two paragraphs seems very general and most of its content has already been mentioned in earlier chapters. (Sven Harmeling, Germanwatch)	Thank you for comment. We'll consider it in the SOD
527	53152	15	30	14	30	14	But decision makers routinely take decisions under uncertainty. (Kristie L. Ebi, IPCC WGII TSU)	Thank you for comment. We'll consider it in the SOD
528	53153	15	30	15	30	21	It is unclear why this is included here. (Kristie L. Ebi, IPCC WGII TSU)	The writing was revised
529	54653	15	30	15	30	21	The author may consider using this discussion about the relevance of adaptation towards the beginning of the chapter. (Monalisa Chatterjee, IPCC WGII TSU)	Thank you for comment. We'll consider it in the SOD
530	40925	15	30	19	30	21	While the gap still exists between mitigation and adaptation process development and implementation, adaptation is now mainstream policy (changes since the citation in 2009). This comment is a bit outdated. Suggest omitting or updating this statement to reflect the changing levels of discussion on adaptation and mitigation since Copenhagen's COP 15 (2009) when mitigation far overshadowed adaptation to COP 17 in 2011, RIO+20 and beyond. (Lynn Wilson, SeaTrust Institute)	Thank you for comment. We'll consider it in the SOD
531	43452	15	30	21	30	21	We need to add here that adaptation in future will have to be also mixed with local mitigation measures such as in the HKH region as energy types need to be changed to more environmental friendly ones, Hence mutual planning for adaptation and mitigation is important and is practiced at several places in the HKH region and lends more strength to climate awareness package and convincing locally (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you for comment. We'll consider it in the SOD
532	50883	15	30	25	30	25	"likely" -- If this term is being used per the uncertainties guidance for authors, it should be italicized. Casual usage of this reserved likelihood term should be avoided. (Katharine Mach, IPCC WGII TSU)	Thank you for comment. We'll consider it in the SOD



#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
533	35167	15	30	27	0	28	This is a conclusion valid in a number of local case-studies and something that needs to be emphasised more in the chapter because of this. i.e. climate adaptation in practical decision-making is at odds with other political concerns, ambitions and policies. See e.g. Measham, T.G., Preston, B.L., Smith, T.F., Brooke, C., Gorddard, R., Withycombe, G., and Morrison, C., 2011. Adapting to climate change through local municipal planning: barriers and challenges. Mitigation and Adaptation Strategies for Global Change, 16, 889–909. Storbjörk and Hedrén (2011), "Institutional capacity-building for targeting sea level rise in the climate adaptation of Swedish coastal zone management. Lessons from Coastby". Ocean and Coastal Management Vol. 54, No 3, 265-273. Glaas, E. et al, 2010. Managing climate change vulnerabilities: formal institutions and knowledge use as determinants of adaptive capacity at the local level in Sweden. Local Environment 15, 525-539, Storbjörk, S. (2007), Governing Climate Adaptation in the Local Arena: Challenges of Risk-Management and Planning in Sweden, Local Environment, 12, pp. 457-469. Shepherd, P. J., Tansey, J. & Dowlatabadi, H. (2006), Context matters: what shapes adaptation to water stress in the Okangan?, Climatic Change, 78, pp. 31-62. Crabbé, P. and Robin, M., 2006. Institutional adaptation of water resource infrastructures to climate change in Eastern Ontario. Climatic Change, 78, 103–33. Næss, L.O., Bang, G., Eriksen, S., and Vevatne, J., 2005. Institutional adaptation to climate change: flood responses at the municipal level in Norway. Global Environmental Change, 15, 125–138. (Sofie Storbjork, Linkoping University)	We'll consider it in the SOD
534	53154	15	30	30	30	30	And developing countries are in the forefront of planning and implementing adaptation. (Kristie L. Ebi, IPCC WGII TSU)	The writing was revised
535	43453	15	30	41	30	41	Clearly it is missing that women and marginalised groups involvement for future is the crux. Hence it is suggested that some focus is given here including on youth awareness locally (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you for comment. We'll consider it in the SOD
536	52786	15	30	42	0	0	15.4.3.2. The section on Balancing Mitigation and Adaptation Responses to Climate Change may not do justice to the subject. Somewhere should be a discussion of equivalent depth to Chapter 18 of AR4. (Tim Rayner, University of East Anglia, Tyndall Centre for Climate Change Research)	Thank you for comment. We'll consider it in the SOD
537	49111	15	30	44	30	45	It is not clear to us what "built-up environment" is. Is it built-up (urban) areas, og built environment? (Oyvind Christophersen, Climate and Pollution Agency)	It is built environment
538	42875	15	30	44	30	46	Hydro-power development also seems a critical interaction point between mitigation and adaptation. (Sofia Bettencourt, World Bank)	Thank you for comment. We'll consider it in the SOD
539	41391	15	30	44	31	7	This section is too short. Synergies between mitigation and adaptation are a widely discussed issue that needs to be wider reflected in this section. (Sven Harmeling, Germanwatch)	Thank you for comment. We'll consider it in the SOD
540	35168	15	30	49	0	0	Lessons from the ADAM-project previously mentioned in chapter 15 could be included in section 15.4.3.2. See e.g. Hulme, M. et al. (2009), Final report ADAM (Tyndall Centre, Norwich). (Sofie Storbjork, Linkoping University)	We'll consider it in the SOD
541	53155	15	31	1	31	2	Institutions also would be helpful. (Kristie L. Ebi, IPCC WGII TSU)	We'll consider it in the SOD
542	53156	15	31	4	31	7	ADAM is an example. (Kristie L. Ebi, IPCC WGII TSU)	We'll consider it in the SOD
543	43003	15	31	10	0	0	In reference to my comment for chapter 15.3.2, this chapter introduces the terms 'decision support information and tools' (heading), 'decision analysis tools' (first paragraph), and 'decision support systems' (line 16). This is rather confusing and inconsistent terminology that would benefit from upfront definition and clarification. (Hartmut Fuenfgeld, RMIT University)	We'll consider it in the SOD
544	41602	15	31	10	31	22	There is already some more literature (although limited) on science-policy interactions and climate adaptation. See for instance: Peter P.J. Driessen, Pieter Leroy, Wim van Viersen (eds.) (2010). From climate change to social change; perspectives on science-policy interactions, International Books, Utrecht (isbn 9789057270611). This books discusses different approaches in the science-policy interface, such as transdisciplinarity, boundary work, transition processes, social learning, climate science policy roles and science system analysis. (Peter P.J. Driessen, Utrecht University)	We'll consider it in the SOD
545	53157	15	31	13	31	22	Please coordinate with Chapter 12. (Kristie L. Ebi, IPCC WGII TSU)	We'll consider it in the SOD
546	54654	15	31	25	0	0	Section 15.4.3.4. The author team may wish to make the 'developing' aspects more explicit in the section. The author team is also encouraged to coordinate with chapters 14 and 16 on local knowledge. (Monalisa Chatterjee, IPCC WGII TSU)	We'll consider it in the SOD
547	41392	15	31	27	31	29	You might add this project as a reference: <a href="http://sheltercentre.org/sites/default/files/Mozambican-floods-response_0.ppt">http://sheltercentre.org/sites/default/files/Mozambican-floods-response_0.ppt</a> (Sven Harmeling, Germanwatch)	We'll consider it in the SOD
548	53158	15	31	27	31	29	How to measure effectiveness? (Kristie L. Ebi, IPCC WGII TSU)	Thank you for comment. We'll consider it in the SOD
549	40320	15	31	42	31	42	Similar effective traditional weather forecasting and disaster prediction was seen in a recent study on an indigenous community of Bangladesh. However, increasing climate variability and extreme weather events in recent years have left this community vulnerable in absence of sufficient coping mechanism. Ref.: Irfanullah, H.Md. and Motaleb, M.A. 2011. Reading nature's mind: disaster management by indigenous peoples of Bangladesh. Indian Journal of Traditional Knowledge, 10(1), 80-90. (Haseeb Irfanullah, Practical Action)	Thank you for comment. We'll consider it in the SOD
550	41192	15	31	45	0	0	Section 15.4.4 pg 31 line45 – this entire section needs clarity. The title indicates it will present the "role of buffers" but it exclusively talks about protected areas, which are more than buffers. I am also confused why this section takes a DRR frame – would this not be applicable to any form of risk management? (Susan Evans, WWF-Canada)	Please make this comment again in SOD.
551	41393	15	31	45	31	45	As this section mostly talks about ecological buffers it would be good to put this into the title ("Roles of ecological Buffers") (Sven Harmeling, Germanwatch)	Please make this comment again in SOD.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
552	49112	15	31	45	32	36	Please consider a different heading for 15.4.4. Existing heading is "Preparing for Surprises: Role of Buffers". The "surprise-part" does not seem to be reflected in the section. The section is mainly about ecosystem services, hence "ecosystem services" should be reflected in the heading. Alternatives; the heading might be just "The Role of Buffers". (Oyvind Christophersen, Climate and Pollution Agency)	Please make this comment again in SOD.
553	53159	15	31	48	31	48	What about cases? (Kristie L. Ebi, IPCC WGII TSU)	Please make this comment again in SOD.
554	41394	15	31	51	31	52	It would be good to mention that those thresholds are called "tipping points". (Sven Harmeling, Germanwatch)	We have used the term "thresholds" consistently.
555	45090	15	31	54	0	0	Note that Ojima et al 2009 is apparently not in the references? (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	The reference has been removed.
556	41604	15	32	0	0	0	This section has some overlap with section 8.4. The editing of both sections should be coordinated. (Peter P.J. Driessen, Utrecht University)	Section 8.4? We don't have this section.
557	43454	15	32	4	32	7	we have to admit that ecosystem adaptation concept is very difficult to practice especially in densely populated areas with populations direct interface with ecosystems, and except protected areas (which are then left without treatment and making these more prone to other climate related vulnerabilities such as pests, fire etc.) (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Please make this comment again in SOD.
558	54655	15	32	4	32	17	The author team may wish to add some discussion summarizing the literature that provides the critiques of REDD+ experience. (Monalisa Chatterjee, IPCC WGII TSU)	Detailed treatment on this topic is beyond the scope of this chapter.
559	46094	15	32	20	32	20	I could not find (PCLG, 2002) in the list of references (Luis E. Garcia, World Bank)	The reference has been added to the list.
560	41193	15	32	22	32	23	Section 15.4.4 pg 32 line 22-23 – This last sentence "Thus, protected areas provide a safety net which can be..." is key and seems to be the intended focus of this section. I would suggest you re-work this section to reflect this as the frame for discussion presented here. (Susan Evans, WWF-Canada)	Please raise this point again in your SOD review.
561	54656	15	32	39	0	0	The author team may consider adding discussion on 'different forms of governance' in this section. (Monalisa Chatterjee, IPCC WGII TSU)	This has been taken into considerations,
562	43357	15	32	39	33	47	Section 15.5.1 is titled "Cross-sector Coordination" but it also addresses the important topic "Multi-level governance". Please create a separate heading "Multi-level governance" and restructure the text accordingly (see also FAQ 15.2). (Hans-Martin Füssel, European Environment Agency)	This has been addressed in the revision of the section.
563	39269	15	32	39	34	17	Some of the issues presented as planning challenges (knowledge production, participation etc.) are also issues of governance (Monica Tennberg, University of Lapland)	This has been addressed in the revision of the section.
564	39270	15	32	39	34	17	There should be better balance between planning and governance for adaptation. These publications might be useful for strengthening the part on governance (Monica Tennberg, University of Lapland)	The revision has provided a balance between planning and governance.
565	39271	15	32	39	34	17	There should be better balance between planning and governance for adaptation. These publications might be useful for strengthening the part on governance Community Adaptation and Vulnerability in Arctic Regions (2011), Grete K. Hovelsrud and Barry Smit (Editors). Springer, Berlin Developing Adaptation Policy and Practice in Europe: Multi-level Governance of Climate Change (2011), Keskitalo, E. Carina H. (Ed.) Springer, Berlin Governing the Uncertain: Adaptation and Climate in Russia and Finland (2012), Monica Tennberg (Editor) Climate Governance in the Arctic (2009), Timo Kolvurova, E. Carina, H. Keskitalo and Nigel Bankes (Editors) The use of these publications could also balance the regional coverage in examples in the chapter. (Monica Tennberg, University of Lapland)	The balance have been provided using the relevant references in the revision.
566	41603	15	32	39	34	41	This section is a little bit disappointing and doesn't cover all the relevant issues with regard to the governance of adaptation. In my view the following 10 key topics should be addressed here: (1) The framing of adaptation problems and goals and the incorporation of uncertainties, risk perceptions and contested knowledge in adaptation policies; (2) The appropriate modes of governance (networked, market, hierarchical) and available instruments (legal, financial, communicative); (3) The allocation of responsibilities to public and/or private actors in order to develop legitimate and effective adaptation strategies; (4) The incorporation of normative principles in the development and implementation of adaptation policies and plans; (5) The coordination of actions at different administrative levels (multi-level governance); (6) The mainstreaming of climate adaptation in sectoral policies, like water management, urban and regional planning, and public health policies (multi-sector governance); (7) The timing of adaptation actions; (8) The costs and benefits of adaptation policies and measures and associated distributional effects; (9) The development of appropriate science-policy interfaces in order to transform scientific knowledge into policy relevant knowledge; (10) The relevance of leadership for initiating and stimulating long term societal change. (Peter P.J. Driessen, Utrecht University)	We have tried to incorporate your comments. Thank you.
567	42876	15	32	41	0	0	A critical issue here is that Ministries of Environment, traditionally given the mandate for climate change programs, are often new Ministries and generally weaker than many of the Ministries/agencies they seek to influence (e.g. Agriculture, Public Works, Health). This is the reason why there has been a recent trend in developing countries to place the mandates for climate change coordination in higher level institutions such as Ministries of Finance (Zambia and Niger), Prime Minister's Offices (Madagascar), Offices of the President (Kiribati) or Ministries of Planning (Mozambique). See Bettencourt et al (2006) reference above, for further discussion on this topic. (Sofia Bettencourt, World Bank)	Please raise this point again in your SOD review.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
568	48922	15	32	41	0	0	section 15.5.1 - the title - cross-sector co-ordination - may be a little narrow - may wish to consider something broader such as inter and intra-governmental co-ordination (Leon Soste, Department of Primary Industries, Victoria, Australia)	The comment has been taken into consideration with a revision of the section that provides an opening paragraph that addresses cross-sector coordinatio, and a section on 'Factors of governance'.
569	53160	15	32	43	32	54	What does this say about mainstreaming? (Kristie L. Ebi, IPCC WGII TSU)	This has been addressed with the revision of the section.
570	35169	15	32	43	33	47	Many of the conclusions raised here resembles conclusions in sections 15.4.1.1. and 15.4.1.4 and here references needs to be better synchronised. The title vs content of 15.5.1 needs to be better coordinated as matters of vertical administrative interplay/multilevel governance aspects previously raised in the chapter is also emphasised (i.e. 15.5.1 focuses on so much more than cross-sector coordination). Or perhaps even better start chapter 15 with discussing what is included in "governing adaptation" in a wider sense who is part of adaptation governing etc., and then see sections 15.2, 15.3 and 15.4 as a way to assess/go in depth with different governing mechanisms? Either way section 15.5. is currently not clear enough in its structure compared with the other sections in the chapter. 15.5.3 also needs to be anchored more in the ch 15.5. Perhaps the points raised there are better dealt with in other parts of the chapter? (Sofie Storbjork, Linkoping University)	Following the re-arrangement of the sections with the introduction of a new section on 'Factors of Adaptation Governance', the revision has taken all these into considerations.
571	45463	15	32	47	32	50	For a developing country example (i.e., Kampala, Uganda) of coordination issues across city scales, see Lwasa, Shuaib. 2013. "Bridging adaptation to climate change across city scales in Kampala". Local Environment: The International Journal of Justice and Sustainability. Forthcoming. (Rafael Tuts, United Nations Human Settlements Programme)	This has been considered in the revision
572	53161	15	33	12	33	17	Why is this here and not in the section on actors? (Kristie L. Ebi, IPCC WGII TSU)	This has been addressed in the revision
573	50884	15	33	25	33	25	"likely" -- If this term is being used per the uncertainties guidance for authors, it should be italicized. Casual usage of this reserved likelihood term should be avoided. (Katharine Mach, IPCC WGII TSU)	This has been addressed in the revision
574	53162	15	33	38	33	38	This is not possible for all actors. (Kristie L. Ebi, IPCC WGII TSU)	This has been considered in the revision
575	50885	15	33	52	33	52	"likely" -- If this term is being used per the uncertainties guidance for authors, it should be italicized. Casual usage of this reserved likelihood term should be avoided. (Katharine Mach, IPCC WGII TSU)	This has been addressed in the revision.
576	53163	15	34	1	34	17	The SREX has information that may be relevant. (Kristie L. Ebi, IPCC WGII TSU)	This has been considered in the revision
577	47704	15	34	15	34	17	While I do agree that there need to be links between mitigation and adaptation planning, I am not sure what is meant by the statement that such measures are inseparable responses at the local level. For many developing countries that have not generated any large contribution to greenhouse gas emissions, adaptation is likely to take precedence over mitigation. If a linking became a condition of financial support, this would be detrimental to such efforts already occurring. "In avoiding risks and conflict of interests, integrative planning of mitigation and 16 adaptation measures are inseparable responses to climate change especially at the local level (Granberg and Elander 2007)" (Bob Pokrant, Curtin University)	This has been addressed in the revision.
578	54657	15	34	20	0	0	The author team may consider adding a detailed schematic explaining the positives and challenges associated with adaptation experiences. (Monalisa Chatterjee, IPCC WGII TSU)	We will consider this possibility in our next revision.
579	41395	15	34	20	34	20	I do not see the title fitting to the content of this section. (Sven Harmeling, Germanwatch)	Please raise this point again in your SOD review.
580	43455	15	34	20	34	41	Governance is the key, hence all other repertoire of concepts and frameworks, technologies, ICT systems are nullified if the good governance is missing or ultimately adaptation planning, implementation, M&E has to be delivered. We have found that one key issue here is the structural reform processes within states of HKH region along with a performance based human resource assessment system will form the two formidable pillars if adaptataion is to be actually delivered! (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Thank you for your comment. We will consider this in our next revision.
581	53164	15	34	22	34	34	This could be an appropriate place to discuss path dependencies. (Kristie L. Ebi, IPCC WGII TSU)	This has been considered in the revision
582	50886	15	34	30	34	30	"likely" -- If this term is being used per the uncertainties guidance for authors, it should be italicized. Casual usage of this reserved likelihood term should be avoided. (Katharine Mach, IPCC WGII TSU)	This has been addressed in the revision of the section.
583	44853	15	34	31	34	32	A key reference missing here, that has to be reviewed and added, is: Brunner, R. D., & Lynch, A. H. (2010). Adaptive Governance and Climate Change. Chicago: The University of Chicago Press. (Carolina Adler, Swiss Federal Institute of Technology (ETH) Zurich)	The appropriate references have been considered in the revision
584	53165	15	34	36	34	41	How is this funded? (Kristie L. Ebi, IPCC WGII TSU)	This has been considered in the revision
585	46701	15	34	44	0	0	Section 15.6: Some mentioning and elaboration of Local Adaptation Plan of Action (LAPA) for example LAPAs in Nepal could have been mentioned as these are moving ahead with positive manner towards local level planning for adaptation. (Atiq Kainan Ahmed, Asian Disaster Preparedness Center (ADPC))	We will consider this in the next revision.
586	49113	15	34	44	34	44	It is unclear what purpose this section "15.6 Conclusions" serve in relation to the Executive Summary. We observe that other Chapters in the report do not have a Conclusions section. (Oyvind Christophersen, Climate and Pollution Agency)	To respond to your comment, we have removed the conclusion section and replaced it with chapter summary and reseach needs.
587	40926	15	34	44	36	37	Section 15.6 lacks note of the role of civil society, notably NGOs and CBOs even in implementation, much less in the planning. (Lynn Wilson, SeaTrust Institute)	We will consider this in the next revision.
588	43456	15	34	44	36	37	It seems that IPCC report 5 as it is in Chapter 15 has ignored the adaptation knowledge generated from the Alps, Andes and Himalayan region. To avoid that IPCC 5 is again blank spot on mountains, we need to have special focus on mountains, and same ist the case on the most vulnerable groups such as women, poor and ethnic/triblas etc. The conclusion and the Executive summary is silent about this. (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	If there are good literature and/or reports on this issue, please let us know in you next review.
589	35170	15	34	46	36	37	The conclusion needs to be coordinated with the summary points and the three first comments raised regarding 1. that international organisations etc. have raised the importance, 2. the extent of plans in developed and developing countries and 3. the dedicated climate units needs to be nuanced (Sofie Storbjork, Linkoping University)	We have removed the conclusion and modified the text to include these points.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
590	52872	15	34	52	34	52	Implies a separation is desirable, when it is just the opposite (John Hay, University of the South Pacific)	We recognize that the merging these two interests is important.
591	44878	15	34	52	34	54	I do not understand why there is an interest in separating adaptation from development. Perhaps I'm missing something. (Joel Smith, Stratus Consulting Inc.)	We should rephrase what we intend to convey here in a better way. Please raise this point again in your next review.
592	53166	15	35	1	35	54	It could be helpful for the readers if this was framed as best practices. (Kristie L. Ebi, IPCC WGII TSU)	We will consider this in the next revision.
593	52873	15	35	11	35	16	Paragraph starts by referring to infrastructure, while the comment have much wider applicability (John Hay, University of the South Pacific)	We will consider this in the next revision.
594	44879	15	35	18	35	20	I think "adaptation deficit" is a misnomer. What is being referred is better called "development deficit." See the World Bank EACC study. (Joel Smith, Stratus Consulting Inc.)	We have used the term as in Burton and May 2004.
595	49114	15	35	18	35	20	The three sentences here is about adaptation deficit. Adaptation deficit has hardly been addressed in the preceding sections of Chapter 15, and should therefore not be part of the conclusions. Please, consider to move these three sentences into a preceding section, for instance Sub-chapter 15.4. (Oyvind Christophersen, Climate and Pollution Agency)	We will consider this in the next revision.
596	46969	15	35	45	35	50	Please see the above comments (A K M Saiful Islam, Bangladesh University of Engineering and Technology)	We will consider this in the next revision.
597	44880	15	35	47	35	50	Discussion of this point needs to be strengthened (Joel Smith, Stratus Consulting Inc.)	We will consider this in the next revision.
598	53167	15	35	48	35	48	This has been mentioned several times. It at least one place, it would be helpful to have an evaluation. (Kristie L. Ebi, IPCC WGII TSU)	We will consider this in the next revision.
599	35171	15	36	12	0	0	Here it should be mentioned that formulating efficient plans is not the same as implementing them/having them concretely guide decision-making practices. I think the Hulme quote (p 11 lines 28-30) needs to be made part of the conclusions. (Sofie Storbjork, Linkoping University)	We have revised the text.
600	53168	15	36	13	36	14	More discussion would be valuable. (Kristie L. Ebi, IPCC WGII TSU)	We have revised the text.
601	53169	15	36	48	36	49	The framing is mostly about weather, so it is hard to see how there are lessons for climate change adaptation. (Kristie L. Ebi, IPCC WGII TSU)	We have revised the answer.
602	52866	15	37	0	0	0	References: National Communications are a rich source of information; this seems to have been overlooked (John Hay, University of the South Pacific)	We will do our best to cover various sources.
603	42877	15	37	1	37	10	See United Nations (2011) GAR11: Revealing Risk Redefining Development. United Nations Global Assessment Report on Disaster Risk Reduction 2011. Coordinated by UNISDR. <a href="http://www.preventionweb.net/english/hyogo/gar/2011/en/home/executive.html">http://www.preventionweb.net/english/hyogo/gar/2011/en/home/executive.html</a> Their Executive Summary has important, albeit still preliminary, evaluation of the most appropriate institutional framework to promote disaster risk management (also relevant for adaptation). (Sofia Bettencourt, World Bank)	This reference has been added.
604	35172	15	37	6	0	10	This is a good list. Perhaps the points can be made clearer in the sections discussing coordination? (Sofie Storbjork, Linkoping University)	We have changed the Question based on the suggestion by TSU.
605	53170	15	37	12	37	20	No citations are to be included in FAQs. The temporal scale needs to be discussed. (Kristie L. Ebi, IPCC WGII TSU)	We have changed the Question based on the suggestion by TSU.
606	40927	15	37	22	37	30	FAQ 15.4 should also mention engaging the finance and insurance sectors in creating the new mechanism. (Lynn Wilson, SeaTrust Institute)	We have changed the Question based on the suggestion by TSU.
607	42696	15	37	22	37	30	In Australasia the key barrier to implementation are that organisations currently do not have the internal capacity to progress adaptation. This is primarily driven by uncertainty and inconsistency around regulatory requirements across jurisdictions. (Adam Davis, Manidis Roberts Pty Ltd)	We have changed the Question based on the suggestion by TSU.
608	35173	15	37	23	0	30	I think a few more barriers need to be mentioned to better reflect the review in the chapter e.g. the horizontal networking capacity, vertical administrative interplay/multilevel coordination, conflicting political priorities, lack of downscaled knowledge/knowledge exchange/science-policy interactions etc. (Sofie Storbjork, Linkoping University)	We have changed the Question based on the suggestion by TSU.
609	52874	15	37	33	0	0	References A source of relevant information (including case studies) is UNISDR and UNDP, 2012: Disaster Risk Reduction and Climate Change Adaptation in the Pacific: An Institutional and Policy Analysis. United Nations International Strategy for Disaster Reduction (UNISDR) and United Nations Development Programme (UNDP), Suva, Fiji, 90pp. (John Hay, University of the South Pacific)	Please remind us of this reference again in your next review.
610	39064	15	39	28	39	30	the official web link for this reference should be <a href="http://www.capetown.gov.za/en/EnvironmentalResourceManagement/publications/Documents/Framework_for_Adaptation_to_Climate_Change_(FAC4T)_08_2006_38200713832_465.pdf">http://www.capetown.gov.za/en/EnvironmentalResourceManagement/publications/Documents/Framework_for_Adaptation_to_Climate_Change_(FAC4T)_08_2006_38200713832_465.pdf</a> (Pierre Mukheibir, University of Technology Sydney)	Thank you for providing the official URL. We will make sure to use the link in our next revision.
611	43358	15	40	39	40	39	This EEA website is not cited in the text. The URL can now be replaced by a link to Climate-ADAPT (see my comment on p. 11, ll. 13-26 above). (Hans-Martin Füssel, European Environment Agency)	EEA 2012 has been added in the text. See p.12 line 54.
612	37164	15	42	0	0	0	Examples of Adaptation measures for Human Health. (Angela Andrade, Conservation International Colombia)	Yes
613	47192	15	45	20	45	23	Now peer-reviewed and published as: Nakashima, D.J., Galloway McLean, K., Thulstrup, H.D., Ramos Castillo, A. and Rubis, J.T. 2012. Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation. Paris, UNESCO, and Darwin, UNU, 120 pp. (Douglas Nakashima, UNESCO)	We will replace the citation in our next revision. Thank you for the information.