

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
1	35749	14	0	0	0	0	The chapter does a very good job of explaining the adaptation and creating a base for following chapters (15-17) and linkage with Chapter-2. However, a linkage with Chapter 2 and 15-17 on Natech events adaptation may be appropriately covered. (Jitendra Desai, Reliance Industries Limited)	Unclear what is meant about Natech?
2	35802	14	0	0	0	0	The report systematically fails to acknowledge the well-developed literature on the role of corporations, conservative foundations, and civil society organizations in hindering the recognition of the science of climate change, and thus hindering adaptation responses. This literature needs to be added to ensure that the IPCC report accurately reflects the complete scientific literature in this area. The specific areas where this occurs are mentioned below by page and line number. (Robert Brulle, Drexel University)	Attempted to add more
3	35810	14	0	0	0	0	This social process has been well developed in sociology. I highly suggest that Dr. Riley Dunlap of Oklahoma State University be consulted in the revisions of these areas. Some of the key references that should be consulted are: Antonio, Robert J. and Robert J. Brulle. 2011. The Unbearable Lightness of Politics: Climate Change Denial & Political Polarization. Sociological Quarterly. Austin, A. 2002 Advancing Accumulation and Managing its Discontents: The U.S. Antienvironmental Countermovement Sociological Spectrum 22: 71-105 Covington, Sally (2005) Moving Public Policy to the Right: The Strategic Philanthropy of Conservative Foundations, in Faber, D. and McCarthy, D. (eds.) Foundations for Social Change. (Lanham, N.J.: Rowman & Littlefield). (Robert Brulle, Drexel University)	A reference is now made
4	35811	14	0	0	0	0	REFERENCES CONTINUED: Dunlap, R. and A. McCright. 2010. Climate change denial; sources, actors and strategies. Pp 240-259 in Constance Lever-Tracy (ed.) Routledge Handbook of Climate Change and Society. Abingdon, U.K. Routledge Layzer, J.A. 2007. Deep Freeze: How Business Has Shaped the Global Warming Debate in Congress, pp. 93-125 in Michael E. Kraft and Sheldon Kamieniecki (eds.) Business and Environmental Policy: Corporate Interests in the American Political System. MIT Press: Cambridge Lo, Clarence Y.H., 1982: "Countermovements and Conservative Movements in the Contemporary U.S., Annual Review of Sociology, 1982. 8:107-134 McCright, Aaron M. and Riley E. Dunlap. 2010. "Anti-reflexivity: The American Conservative Movements Success in Undermining Climate Science and Policy. Theory, Culture & Society. 27(2/3):100-133. (Robert Brulle, Drexel University)	A reference is now made
5	35812	14	0	0	0	0	REFERENCES CONTINUED: McCright, Aaron M., and Dunlap, Riley E. 2003. Defeating Kyoto: The Conservative Movement's Impact on U.S. Climate Change Policy Social Problems, August 2003, Vol. 50, No. 3, Pages 348-373 Meyer, David S, and Staggenbord, Suzanne, 1996., "Movements, Countermovements, and the Structure of Political Opportunity," American Journal of Sociology, Vol. 101, No. 6 Oreskes, N. and Erik M. Conway. 2010. Merchants of Doubt. New York: Bloomsbury Press. Pichardo, Nelson A., 1995. "The Power Elite and Elite-Driven Countermovements: The Associated Farmers of California During the 1930s," Sociological Forum, Vol. 10, No 1 (Robert Brulle, Drexel University)	A reference is now made
6	38578	14	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)	Noted.
7	38887	14	0	0	0	0	The chapter is providing comprehensive and ample information about adaptation. Section 14.2.3, Challenges to Adaptation portrays the almost full repertoire of adaptation but with no mention of Awareness, one of the basic challenges to climate change. Lack of awareness is beyond doubt, one of the main hurdles in addressing climate change adaptation specially in developing countries where a sizeable population is not recognizing the magnitude of the problem. (Mohamed Tawfic Ahmed, Suez Canal University)	This section has been dropped - but awareness is raised on about 10+ occasions
8	39055	14	0	0	0	0	The authors have done a very good job in capturing and explaining the fundamentals of adaptation needs and options. The chapter functions well as an introduction to the conceptual and practical issues involved in adaptation to climate change and builds well on the AR4 chapter, particularly with the inclusion of the sections on maladaptation. I have made one general comment: There is a strong focus on developing country contexts throughout the chapter. While this is a very necessary focus, there are considerable adaptation needs emerging in developed countries, albeit with different couplings of options and capacities. In each of the sections where examples are given of needs and options it would be good to see developed and developing country examples presented together. It was rightly mentioned that there has been a historical tendency to regard adaptation as a developing country problem – it would be good if the focus of this chapter reflected a move away from that perspective with recognition that there will be a need to plan for adaptation in all contexts. (Elissa Waters, University of Melbourne)	Point taken and have tried to increase coverage
9	39076	14	0	0	0	0	CCA Local Government Report June 1012 Final Draft for review.pdf (this report will be publically available in August 2012) (emailed to wg2-ar5-supportingmaterial@ipcc-wg2.gov) (Pierre Mukheibir, University of Technology Sydney)	Document accessed, but not cited
10	40271	14	0	0	0	0	All the references mentioned above are sent to TSU's e-mail address for supporting materials. (Haseeb Irfanullah, Practical Action)	Point noted
11	42763	14	0	0	0	0	While this chapter has a generally robust discussion of many aspects of adaptation needs and options, it is conspicuously missing discussion of law, legal structures and institutions, and related constraints and opportunities created by legal structures and institutions at the national and subnational level. For example, in the United States, adaptation options may be constrained by property rights (through the US Constitutional takings doctrine as well as state property laws) and by governance structures created by laws. Another important example is the role of land use planning laws and regulations at the state and local levels in incentivizing or impeding adaptation, both structurally and in the context of ongoing decisionmaking. A discussion of the role of law and legal institutions seems essential to this chapter's effectiveness in explaining constraints and opportunities that shape the available options for adaptation. 14.2, 14.3, and 14.4, at a minimum, could include this information. (Sean Hecht, UCLA)	Point taken. Constraints are with Chpt 16; no clear position to discuss legal in current structure - Chpt 15?

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12	44395	14	0	0	0	0	This chapter is well written and the authors have clearly worked hard on structuring the text. This chapter is really important as it serves as a framing chapter, and a stage setter, for the three chapters that follows. My comments are directed to this framing, as I at times finds the framing too be to narrow to fully cover the recent widening and deepening of the adaptation field. (Linda Sygna, University of Oslo)	Point noted and have tried to widen
13	44517	14	0	0	0	0	Section 14.2.1 "Understanding Adaptation ": the statement "Given historical and current levels of emissions stemming from human activities, it is expected that the climate will continue to change (IPCC, 2007a; Stott et al., 2010). These changes are predicted to be accompanied by greater variability in temperatures, precipitation, and extreme weather events that, in turn, will impact...". is too general and partly incorrect (1) "predicted" is the wrong word, it should say "projected"; (2) please refer to SREX and WGI AR5 for discussion about projected changes in mean, variability, extremes etc, in different climate variables rather than, rather poorly, summarising and over generalising such key conclusions in one sentence. For example, generalization that variability in temperature, precipitation and extreme weather events will be increasing with climate change is unsupported by both SREX Chapter 3 and the relevant Chapters in the WGI AR5 FOD. (Thomas Stocker, IPCC WGI TSU)	Text now does not include the word 'predicted' anywhere
14	44838	14	0	0	0	0	In general the chapter is well written, insightful and interesting. This is a difficult topic to capture. (Joel Smith, Stratus Consulting Inc.)	Thanks
15	45027	14	0	0	0	0	I note the structure of the chapter makes it hard to address (i) transformational adaptation and cycles of transformation relative to incremental adaptation (e.g. Park et al 2012, Stafford Smith et al 2011; Kates et al 2012) - this is issue is picked up in other chapters but really ought to be foundational; and (ii) any sense that decision-makers in all walks of life and the organisations in which they are embedded may be at different stages in their acceptance, understanding and preparedness to act on adaptation, and may require different information and tools at these different stages to progress through the sequence (quite nicely explicated by Gardner et al 2009, see their Fig.1). [Park, S. E., Marshall, N. A., Jakku, E., Dowd, A. M., Howden, S. M., Mendham, E., and Fleming, A. (2012). Informing adaptation responses to climate change through theories of transformation. Global Environmental Change 22, 115-126; 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.; Kates, R. W., Travis, W. R., and Wilbanks, T. J. (2012). Transformational adaptation when incremental adaptations to climate change are insufficient. Proceedings of the National Academy of Sciences 109, 7156-7161. ; Gardner, J., Dowd, A.-M., Mason, C., and Ashworth, P. (2009). A framework for stakeholder engagement on climate adaptation. CSIRO Climate Adaptation Flagship Working paper No. 3. CSIRO Climate Adaptation Flagship, Canberra. (http://www.csiro.au/resources/CAF-working-papers.html) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Have placed more emphasis on transformation in SOD. See Intro & 14.3.4
16	45028	14	0	0	0	0	I also note that, notwithstanding some brief forays to the contrary, the chapter is largely framed from the developing country point-of-view, with many examples and aspects of discussion taking this angle. Whilst this aspect is essential, it risks missing the similarities and differences for developed countries, so a bit more attention on the latter may be useful, and perhaps some reflection on the differentiation in the challenges? some of the more detailed comments below bring in developed country issues. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Agree. We have added more material relevant to developed countries.
17	47695	14	0	0	0	0	Comment on chapter: A key theme underlying this chapter is how to link short-term adaptation to longer term adaptation to avoid the problem of long term maladaptation. Adaptation is said to be a means to accommodate to inevitable climate change impacts that will occur regardless of mitigation decisions. A benchmark for this is to assume a 2 degree celcius increase in temperature over a given time period and so plan adaptation strategies etc that will have positive benefits within that parameter. However, what if the parameter is wrong and higher temperatures are likely as argued by Mark Stafford Smith, Lisa Horrocks, Alex Harvey and Clive Hamilton Rethinking adaptation for a 4°C world. Philosophical Transactions of the Royal Society A 2011 369, 196-216. Staffird Smith et al. argue persuasively for a process view of adaptation or the idea of continuous transformation. The chapter authors do alluded to adaptation as a process but it may be useful if they consider what they have said in this in the light of the article referred to. (Bob Pokrant, Curtin University)	Agree with comment and have tried to give more emphasis to adaptation as a process.
18	48047	14	0	0	0	0	Because adaptation intersects with major areas of development, disaster, security, mitigation, and so forth, it is difficult to tell sometimes whether the assessments are for adaptation or sustainable development or disaster management. I presume that they are all inclusive. The adaptation options section is indicative of this. Perhaps it helps to make clear how these other areas contribute to adaptatation by providing criteria/factors/standards for inclusion in adaptation. (So-Min Cheong, University of Kansas)	They do overlap. Assessment section completely redrafted.
19	50834	14	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 support further chapter development, I provide a few general and specific comments below. (Katharine Mach, IPCC WGII TSU)	Noted
20	50835	14	0	0	0	0	2) Highlighting key findings -- In developing the 2nd-order draft, the chapter team should aim to present 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 will be able to understand how the literature reviews and syntheses in the chapter sections--the traceable accounts--support the conclusions of the chapter, especially those presented in the executive summary. Additionally, identification of key findings throughout the chapter will enable the author team to increase specificity in characterizing key trends, determinants, and specific needs and options in the context of the executive summary. (Katharine Mach, IPCC WGII TSU)	Noted

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21	50836	14	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 may find it effective to present 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)	Noted
22	50837	14	0	0	0	0	4) Specificity in presentation of examples -- Where the chapter team presents specific examples of adaptation experience, options, etc., the author team should aim for high levels of specificity, paired with conciseness. That is, brief indication of when, where, and why a given approach was employed will enhance the utility of the assessment's presentation for the reader, in addition to the broader lessons from the example that the chapter team identifies. (Katharine Mach, IPCC WGII TSU)	Noted
23	50838	14	0	0	0	0	5) Conditional constructions -- The author team should continue using conditional constructions that explicitly separate physical changes from corresponding conditional impacts or adaptation outcomes. In adopting such constructions, the chapter team can also separately characterize its degree of certainty for the physical change and the corresponding conditional outcome. (Katharine Mach, IPCC WGII TSU)	Noted
24	50839	14	0	0	0	0	6) Figures and tables -- Figures and also tables represent important and effective vehicles for clear communication of assessment and corresponding key findings. The author team is strongly encouraged to further develop figures to complement the chapter's assessment. (Katharine Mach, IPCC WGII TSU)	Noted
25	50840	14	0	0	0	0	7) 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)	Noted
26	50841	14	0	0	0	0	8) 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)	Noted
27	52589	14	0	0	0	0	1) chapter structure • Generally, logical chapter structure. • Seriously question including the mainstreaming of adaptation as a sub-topic under Chapter 14.2 Foundation of adaptation. This makes the assumption that adaptation actions must be integrated for them to be effective. And the listing of only four areas for integration may give the false impression that these are the only areas where mainstreaming is possible or necessary. Suggest that Chapter 14.2.2. would be better placed under Chapter 14.3.2. Options for Adapting to Climate Change. 2) coverage • Good to begin with the definition of adaptation, but considering that adaptation is defined as an activity to moderate harm, would be useful to have a discussion of what this harm is that is being moderated. Would be useful to introduce other concepts of adaptation. • The section on measuring adaptation is interesting, but should include cautionary language around the potential for subjectivity to creep into the development of indices and metrics as well as the limitations of metrics in addressing non-quantifiable aspects of climate change impacts. • Distinction between disaster risk management and adaptation and the need to respect and accommodate the differences between the two is commendable – but need to emphasise that this is not only relevant in a mainstreaming or integration situation. 3) gaps • The gaps section itself is missing. Research on the harm that cannot be moderated by adaptation actions appears to be one of the significant gaps in research. Examples include loss of territory due to sea level rise, loss of ecosystems due to increased ocean temperatures and ocean acidification, and permanent water stresses associated with melting glaciers. 4) balance • Good to see the section on Economic perspectives (14.2.1.1.4.) and evaluating losses. But this should be balanced by a treatment of 'non-economic' perspectives. • The issue of maladaptation and how to avoid it is important. However, question giving it a separate sub-chapter and equal coverage to the needs and solutions section, which should be a priority. 5) cross-chapter issues • Suggest that the authors survey each of the WGII report chapters and ensure that all cross-chapter issues are cross-referenced. (Malia Talakai, AOSIS)	Chapter has been restructured. Also really doubt case for stand-alone adaptation. But much of this is now only in Chpt 15
28	52764	14	0	0	0	0	Having introduced the distinction between incremental and transformative adaptation in the opening chapter, this would appear an appropriate chapter to re-visit and further discuss the implications. The opportunity is missed here. (Tim Rayner, University of East Anglia, Tyndall Centre for Climate Change Research)	Have placed more emphasis on transformation in SOD. See Intro & 14.3.4
29	52765	14	0	0	0	0	I suggest that somewhere some discussion is included on the potential role for project level environmental impact assessment and programme/plan level strategic environmental impact assessment. There is a growing literature and professional interest in how climate concerns can be mainstreamed within these, and the EU is due to issue guidance. It might fit in section 14.7.3 on screening for maladaptation, or in a section on the importance of spatial planning (a theme which is not given much prominence here - perhaps it is in other chapters). (Tim Rayner, University of East Anglia, Tyndall Centre for Climate Change Research)	This is more for Chpt 15
30	52862	14	0	0	0	0	Inappropriate that resilience is not discussed until page 10; it should be discussed in Section 14.2, at least (John Hay, University of the South Pacific)	It is now earlier, but this point probably still needs to be picked up
31	53002	14	0	0	0	0	The adaptation chapters did a relatively good job coordinating material across the chapters. (Kristie L. Ebi, IPCC WGII TSU)	Noted
32	53003	14	0	0	0	0	An issue missing from the chapter is approaches to assessing the needs for adaptation. (Kristie L. Ebi, IPCC WGII TSU)	Attempted to correct this in restructure

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33	53004	14	0	0	0	0	The chapter should reinforce the iterative nature of adaptation, including in the Executive Summary. In addition, the chapter should discuss temporal scale issues associated with assessing adaptation needs and options, including how path dependencies can be created or tempered over time. (Kristie L. Ebi, IPCC WGII TSU)	Agree - see response to Comment #17
34	53005	14	0	0	0	0	The range of examples and case studies used is quite narrow. It would be quite helpful to include examples from a broad range of sectors, from health to tourism. (Kristie L. Ebi, IPCC WGII TSU)	Still trying to coordinate this across chpts
35	53006	14	0	0	0	0	It would be quite helpful to select one or two case studies to run across the adaptation chapters, illustrating various facets of the process of adaptation. (Kristie L. Ebi, IPCC WGII TSU)	Still trying to coordinate this across chpts
36	53007	14	0	0	0	0	There are many relevant lessons from the SREX that could be cited in the chapter. (Kristie L. Ebi, IPCC WGII TSU)	More SREX material included
37	54444	14	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)	Noted
38	54445	14	0	0	0	0	EXECUTIVE SUMMARY: The author team has made good progress on the Executive Summary, including attention to providing traceable accounts (see separate comment on this), but more work is needed. For the SOD, I suggest considering ways to increase the specificity of the 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. Some specific suggestions along these lines are provided below, but general attention to this should be prioritized. There may also be opportunities to add additional findings as the chapter assessment matures. In addition, each Executive Summary finding should include assignment of calibrated uncertainty language to communicate the author team's degree of certainty regarding the conclusions presented. Confidence and evidence/agreement assignments may be most relevant to the scope of this chapter, and we in the TSU are available to discuss the technical details of this aspect of chapter development. (Michael Mastrandrea, IPCC WGII TSU)	Noted
39	54446	14	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 also suggest providing some explanation of the calibrated uncertainty language used in the Executive Summary (once it is developed) in the corresponding chapter section(s) where the traceable account appears for each finding. For example, in situations where confidence in a finding is not high, it would be useful to understand why the author team has made this judgment--what are the factors that limit confidence (e.g., why is evidence not robust, why is agreement not high). In situations where confidence 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. (Michael Mastrandrea, IPCC WGII TSU)	Attempted to strengthen
40	54590	14	0	0	0	0	Chapter team should consider adding a section 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. In doing so, the chapter team may wish to coordinate with chapters 15 and 16 who have added some discussions on approaches (Section 15.3.1) and framework (16.3.1), (16.4) & (16.2.) relevant to their specific chapters. The section here in chapter 14 could build an overarching framework for the adaptation chapters to use and cross reference. (Monalisa Chatterjee, IPCC WGII TSU)	Attempted to correct this in restructure
41	54591	14	0	0	0	0	Author team may wish to incorporate a conceptual diagram to explain different concepts and how they are linked in adaptation literature. (Monalisa Chatterjee, IPCC WGII TSU)	Noted
42	54592	14	0	0	0	0	In general, the author team is requested to use strategies like tables, figures, maps to present synthesized findings where ever possible. (Monalisa Chatterjee, IPCC WGII TSU)	Noted
43	54593	14	0	0	0	0	The Executive Summary should use the calibrated uncertainty language and confidence/agreement scales (Monalisa Chatterjee, IPCC WGII TSU)	Added in SOD
44	54597	14	0	0	0	0	The chapter team is encouraged to cross reference regional and sectoral chapters when discussing specific or regional sectoral issues or examples. (Monalisa Chatterjee, IPCC WGII TSU)	Noted
45	54608	14	0	0	0	0	Some discussions are supported by one or two references, the author team should add all the relevant references. (Monalisa Chatterjee, IPCC WGII TSU)	I disagree with this. Adding all the references would make the text unreadable and the list of references next to useless. This is an assessment of our state of knowledge and not a literature review.
46	54609	14	0	0	0	0	The author team may wish to streamline the discussions on vulnerability and highlight the risk management perspective in each section. (Monalisa Chatterjee, IPCC WGII TSU)	We have added more on the risk management framework, but there are other approaches to adaptation.

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47	54610	14	0	0	0	0	Examples on extreme events and gradual climate change are distributed unevenly in the chapters, where specific sections are heavily relying on extreme event or gradual climate change examples. The author team may consider balancing these examples. (Monalisa Chatterjee, IPCC WGII TSU)	Noted, but we have attempted to choose what is appropriate
48	54622	14	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-Chap14_Reference Checks.pdf at https://ipcc-wg2.gov/AR5/author/FOD/SuppMat (Monalisa Chatterjee, IPCC WGII TSU)	Noted
49	54623	14	0	0	0	0	Literature permitting, the chapter team is encouraged to add more cases to support their findings. (Monalisa Chatterjee, IPCC WGII TSU)	I disagree with this. Adding all the references would make the text unreadable and the list of references next to useless. This is an assessment of our state of knowledge and not a literature review.
50	54624	14	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)	Noted
51	48904	14	1	29	0	0	section 14.2 Foundations of adapt'n/14.2.1 understanding adaptation - I wonder whether there needs to be a section on evaluating relative economic merits of on-ground adaptation options. Section 14.2.1.1.4 (p7) discusses challenges of evaluating high-level costs of adaptation, section 14.3.1.4 (p17) discusses financial resources required - again at a high-level. As someone who works with primary producers, one of the challenges in facilitating adaptation is providing guidance on assessing the relative economic merits of different on-ground adaptation options under on-going uncertainty, with different decisional time horizons and different levels of risk etc. Links also to adaptation metrics (p28, line 46 - 'identify better adaptation options') (Leon Soste, Department of Primary Industries, Victoria, Australia)	After cross chapter discussions we have dropped almost all discussion of economic evaluation and most on financing
52	45318	14	1	50	0	51	Apart from increased emphasis on costs of adaptation and evaluation, the debate on financing adaptation in developing countries has also raised the attention for what constitutes successful adaptation. (Willem Pieter Pauw, German Development Institute (DIE))	Noted - the issues around financing and the costs of adaptation have been dropped from this chpt
53	50842	14	2	43	0	0	Executive Summary -- In subsequent work on the executive summary, there are several aspects of development for the author team to consider further: 1st, for key findings presented, the author team should use calibrated uncertainty language to characterize its degree of certainty in the conclusions, especially considering use of summary terms for evidence and agreement and levels of confidence. 2nd, throughout the executive summary, the author team may wish to enhance specificity, indicating where appropriate any specific trends, practices, or lessons that have emerged or are anticipated. As much as possible, the author team should aim to show where, when, and why a given conclusion is relevant, illustrating with nuance where the current state of understanding lies. (Katharine Mach, IPCC WGII TSU)	Noted
54	54447	14	2	45	2	45	I believe you mean the IPCC AR4 definition, as this is the reference provided for this definition in the corresponding section. (Michael Mastrandrea, IPCC WGII TSU)	No, it really comes from the AR3. This is all updated to adjust to new glossary
55	52110	14	2	45	2	49	In the definitional discussion of "adaptation" here, the chapter team should consider also referencing the definition for this report, as presented in the report glossary. (Katharine Mach, IPCC WGII TSU)	Done
56	48905	14	2	49	0	0	place adaptation into a wider context' - agree - climate adaptation takes place in a wider business, political and personal context - also links to p5, lines 27-29 and p18, lines 51/53 (Leon Soste, Department of Primary Industries, Victoria, Australia)	No comment
57	45738	14	2	50	2	50	If they may not succeed in moderating harm, for what purpose would such adaptation actions introduced (i.e. an example) (Roger Street, UK Climate Impacts Programme)	This has been dropped
58	45739	14	3	1	3	2	...from a focus on biophysical vulnerability to also include the wider social and economic...' (Roger Street, UK Climate Impacts Programme)	This has been dropped
59	52859	14	3	1	3	4	This paragraph should also discuss the increased focus on the biophysical, social and economic determinants of resilience (John Hay, University of the South Pacific)	We have not placed a great emphasis on resilience theory. This is still open to change. But not that we have several arguments about how we can better frame adaptation - risk management, resilience etc. We have tried to balance them, but have probably failed. More comments welcome.
60	54448	14	3	1	3	4	Here is an example where further specificity would be useful. What new insights have resulted from this shift in focus? Has it revealed vulnerable populations/regions/systems that were not recognized as vulnerable previously? Has it suggested new adaptation needs? These questions may not be answerable based on the information available, but further details of this sort would enhance the finding. (Michael Mastrandrea, IPCC WGII TSU)	Redrafted
61	42881	14	3	6	0	0	14.2.2.1 and 2 should be highlighted at the summary section. (Only 14.2.2.3 and 4 are mentioned.) (Mariko Fujimori, Pacific Consultants Co., Ltd.)	ES redrafted
62	52860	14	3	6	3	6	Refer to planning and well as policy, as this is covered in rest of paragraph (John Hay, University of the South Pacific)	ES redrafted
63	52776	14	3	6	3	12	This paragraph of the executive summary suggests that one barrier to greater integration arises from different terminologies. This point is not very clearly developed in the chapter subsequently. (Tim Rayner, University of East Anglia, Tyndall Centre for Climate Change Research)	ES redrafted
64	45319	14	3	7	0	8	It also led to new institutions and organisations (Willem Pieter Pauw, German Development Institute (DIE))	ES redrafted
65	45320	14	3	7	0	8	Please check and align the entire AR4 on the use of institutions and organisations. (Willem Pieter Pauw, German Development Institute (DIE))	Noted - and have attempted to comply

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
66	45321	14	3	9	0	10	... and between development and adaptation (see e.g. Denton, 2010, in climate policy (Willem Pieter Pauw, German Development Institute (DIE))	We have definitely tried to to the extent possible. Any specific examples?
67	52766	14	3	12	0	12	The discussion of barriers referred to here doesn't correspond the the sub-section indicated (14.2.2.3). (Tim Rayner, University of East Anglia, Tyndall Centre for Climate Change Research)	Most of discussion on barriers has been left to Chpt 16
68	45322	14	3	14	0	0	This subtitle is incorrect. People have always been adapting to both climate variability and climate extremes. This means the experience was there already. However, to plan ahead to climate trends and to proactively include adaptation to global climate change in in development plans, that might be new. (Willem Pieter Pauw, German Development Institute (DIE))	ES redrafted. But we are referring specifically to 'adaptation practice' not just the process of adaptation.
69	38248	14	3	14	3	15	Executive Summary. "Experience in adaptation practice is increasing rapidly, which serves to clarify the most significant barriers and opportunities for adaptation." Question: Is it possible to indicate in which areas (urban or rural) such experience in adaptation practice is increasing rapidly? (Abdalah Mokssit, Direction de la Météorologie Nationale (DMN))	I hope this is better in redrafted ES
70	45740	14	3	14	3	18	There is also the challenges associated with dealing with conflicts and the resulting tradeoffs, identifying, implementing and evaluating synergies and transformational adaptation, especially when most of the current focus is on no/low regrets and win-win options. (Roger Street, UK Climate Impacts Programme)	Attempted to bring this into redrafted SOD
71	54449	14	3	14	3	18	Here is another example where further specificity would be useful. What are the most significant barriers to adaptation--are they limited to scaling up and access to finance? Are there lessons learned about how to remove such barriers? And what opportunities exist? These questions may not be answerable based on the information available, but further details of this sort would enhance the finding. (Michael Mastrandrea, IPCC WGII TSU)	Noted
72	49092	14	3	19	3	19	Please consider to highlight the need for multi level engagement by including a section in the executive summary, for example; "Climate adaptation requires the engagement of governmental, nongovernmental, and private sector actors across levels and sectors. Local governments are integral and critical actors in advancing adaptation and in shaping the options identified and selected. As adaptation is local in nature, households play an important role in responding to climate impacts. In most regions of the world, indigenous knowledge exists about how and when to respond to climate change and climate variability. Civil society actors, including NGOs and community-based organizations, also contribute to adaptation, both through dedicated initiatives as well as in the course of their ongoing work. [14.4]", cut and adopted from the sub-sections of section 14.4. (Oyvind Christophersen, Climate and Pollution Agency)	Similar point in redrafted ES
73	54450	14	3	20	3	22	In terms of improving specificity, the point about the lack of information on implementation and evaluation of adaptation actions is a good one, but what other themes have emerged from the author team's assessment of these efforts? (Michael Mastrandrea, IPCC WGII TSU)	See extended para in redrafted ES
74	52861	14	3	20	3	28	These two paragraphs could be integrated into a more coherent statement (John Hay, University of the South Pacific)	ES redrafted
75	54451	14	3	24	3	28	In terms of improving specificity, are there specific characteristics of metrics that drive differing valuation by different groups? Are there general themes in terms of the tradeoffs among metrics that emerge? Does experience obtained so far indicate any specific aspects of approaches/metrics that are particularly useful in measuring effectiveness? These questions may not be answerable based on the information available, but further details of this sort would enhance the finding. (Michael Mastrandrea, IPCC WGII TSU)	Para extended in redrafted ES
76	45323	14	3	25	0	27	I would add climate finance providing countries to this list, or at least make clear that these countries also have different evaluation systems. (Willem Pieter Pauw, German Development Institute (DIE))	Point is made in text - could still be made in ES - will correct for next draft
77	45741	14	3	25	3	25	Note that effectiveness is only one criteria on which success will be determined and therefore which evaluation should consider. (Roger Street, UK Climate Impacts Programme)	Good point - tried to take this up in text
78	45742	14	3	27	3	27	Metrics - need to also consider alternatives to metrics (qualitative statements or storylines) (Roger Street, UK Climate Impacts Programme)	Good point - tried to take this up in text
79	49093	14	3	29	3	29	Consider to implement a section on maladaptation in the executive summary, such as "Development interventions usually contribute to reducing vulnerability and improving the overall adaptive capacity of the targeted sector or communities to potential climate change impacts. However, in some cases, the development approach followed may unintentionally result in increased vulnerability. Maladaptive actions and processes often include planned development policies and measures that deliver short-term gains or economic benefits but lead to exacerbated vulnerability in the medium to long-term.", cut from 14.7.1 and 14.7.2. (Oyvind Christophersen, Climate and Pollution Agency)	See new para in ES
80	41424	14	3	31	0	0	It would be good to include a paragraph on "what has changed since AR4" and "what this chapter does beyond the AR4 assessment". (Sven Harmeling, Germanwatch)	Good point - have tried to introduce that tone through redraft of chapter
81	54594	14	3	31	0	0	Section 14.1. The definition/explanation of needs and options need to be more explicit. The author team may wish to add examples to further clarify. The author team may wish to coordinate with chapters 15 and 16 to ensure this interpretation is consistent across adaptation chapters. (Monalisa Chatterjee, IPCC WGII TSU)	Noted
82	40928	14	3	33	0	0	This seems to be a major redefinition of adaptation. Does it deliberately exclude reactive adaptation (i.e. adaptation that does not necessarily involve much / any planning)? If so, why? Also, such an immediate emphasis on planning as opposed to actions seems to change the original TAR definition. (Frances Moore, Stanford University)	This text has been dropped as it was too abbreviated and liable to misinterpretation.
83	47923	14	3	33	0	0	Suggest that a real definition would be stronger than "entails." (Jenny Frankel-Reed, USAID)	This text has been dropped as it was too abbreviated and liable to misinterpretation.
84	45743	14	3	33	3	33	preparing for the impacts is too limited a perspective for what adaptation entails as it also entails responding to the impacts. (Roger Street, UK Climate Impacts Programme)	This text has been dropped as it was too abbreviated and liable to misinterpretation.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
85	53008	14	3	33	3	33	Not just preparing for, but also avoiding and effectively responding to unavoided impacts. This occurs regularly throughout the chapter, so the authors might consider a global change. (Kristie L. Ebi, IPCC WGII TSU)	This text has been dropped as it was too abbreviated and liable to misinterpretation.
86	44385	14	3	33	4	0	This framing comes across as a bit too narrow to grasp the adaptation field. In the next drafts it would be good if the framing around needs and options managed to include the deeper social, cultural and human dimensions of adaptation. (Linda Sygna, University of Oslo)	Redrafted
87	45029	14	3	34	3	36	Suggest add: 'and miss opportunities' (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Redrafted
88	46067	14	3	34	3	36	Agree with that. However, it is difficult to have a clear picture of what really is the " anticipated climate change". Maybe it is more clearly described in Chapters 22 to 30 for the regions, although I didn't find it too clear in Chapter 27. Chapter 19 tries to focus on this. I think an effort such as SREX is useful in this sense, to focus on things that are less uncertain and not on things that " could", "might", "may" happen or may be "exacerbated" by climate change. This last item may give the sensation that speculation trumps observation and analysis, is confusing to the reader and in my opinion subtracts to the value of the report. (some trivia: although Chapters 1, 2, 15, 20, and 21 had zero to two "exacerbates", Chapter 18 had 5, chapter 27 had 6, chapter 3 had 7, chapter 19 had 11, and chapter 8 had 22). (Luis E. Garcia, World Bank)	Don't follow the point
89	53009	14	3	34	3	36	Could include something about adapting to changes in means and extremes. (Kristie L. Ebi, IPCC WGII TSU)	Redrafted
90	45324	14	3	38	0	0	Include 'climate change' in front of 'adaptation' (if that is what is meant) (Willem Pieter Pauw, German Development Institute (DIE))	Redrafted
91	45325	14	3	38	0	39	It is not the task of research to provide frameworks and guidance (Willem Pieter Pauw, German Development Institute (DIE))	We could discuss this for a long time, but this text has been dropped.
92	45744	14	3	38	3	39	Some may also say that practice is outpacing academic knowledge. (Roger Street, UK Climate Impacts Programme)	I agree strongly (Ian) but others do not.
93	45326	14	3	44	0	45	Needs refers to risks': I guess what is meant is that needs refer to what is needed to DEAL WITH these risks (Willem Pieter Pauw, German Development Institute (DIE))	Redrafted
94	45030	14	3	44	3	49	This focus on 'needs' risks taking a topic-centred rather than a decision-centric view. It sounds influenced by a development-biased experience, where current 'needs' are not yet being met; this is fine but will not fit other contexts so is not general. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Good point - tried to capture this in new text
95	44387	14	3	46	0	0	Consider providing one or two example of a need and a option, to show the range of risks and responses we are talking about. (Linda Sygna, University of Oslo)	Included in redrafted text
96	45327	14	3	46	0	0	Options are the array of strategies AND MEASURES used..' (Willem Pieter Pauw, German Development Institute (DIE))	Included in redraft
97	45745	14	3	46	3	46	options are the array of strategies and measures used to address. In line 47 ussing array of needs could be confusing (may use range of needs instead) (Roger Street, UK Climate Impacts Programme)	redrafted
98	53010	14	3	46	3	46	strategies, policies, and measures (not just strategies) (Kristie L. Ebi, IPCC WGII TSU)	Included in redraft
99	35485	14	4	0	0	0	I would suggest that adaptation and adaptation needs and options were defined already here at the beginning of the chapter as well as the scope of the chapter. They are defined in more detail in chapters 14.3.1. and 14.3.2. but in my opinion it would help the reader to understand the scope of the chapter and the definitions earlier. Chapters 14, 15 and 16 treat adaptation planning and implementation. From the point of view of adaptation policy work, planning and implementation, in my opinion there are at least three aspects of adaptation that can be considered: to what we need to adapt to and plan for: climate variation and change impacts; what has been done or is being done: studying adaptation policy and actions; how to initiate, promote or support adaptation, and then possibly understanding adaptation in relation to other policies and actions. (Susanna Kankaanpää, Helsinki Region Environmental Services Authority (HSY))	Agree and have tried to move core 'definitions' earlier.
100	44386	14	4	0	5	0	This part can draw on more and different literatures on what adaptation is about and how this understanding has developed since the AR4. As it stands now it comes across more as a question of specific measures and technical fixes, and not so much emphasis on adaptation as a social, cultural and human process. Recognizing that societies are in fact creating risks, there is a need to look at ways to do things differently, and thus questioning the very development path society is on. Some of the emerging literature takes a bold stand on adaptation arguing that it involves radical transformation of the way that we think about change, from something that humans simply respond to and objectively manage, to something that humans consciously create. Balancing the subjective and objective dimensions of adaptation is important in this framing chapter, and also the mentioning of transformation as a response to climate change that not only to address the challenges posed by climate change but also address the issues that contribute to social vulnerability. Even though some of this issues appears later on in this and the other adaptation chapters it is important to have a broad assessment of what is meant by adaptation. Example of literature that deals with the subjective dimensions of adaptation: O'Brien, K. and G. Hochachka, 2010. Integral adaptation to climate change. Journal of Integral Theory and Practice 5(1): 89–102; O'Brien, K. and J. Wolf. 2010. A Values-based Approach to Vulnerability and Adaptation to Climate Change. Wiley Interdisciplinary Reviews: Climate Change 1:232-242; among others. (Linda Sygna, University of Oslo)	Good points - have taken note but maybe still have not fully captured this in the SOD
101	50843	14	4	1	0	0	Section 14.1.1. In presenting conclusions from the 4th assessment report, the author team should aim to cite as specifically as possible the relevant chapter sections or overall source (chapter, summary for policymakers, technical summary, synthesis report). (Katharine Mach, IPCC WGII TSU)	Noted
102	53011	14	4	1	4	28	There could be a reference to adaptation as risk management (in the WGII and Synthesis reports). (Kristie L. Ebi, IPCC WGII TSU)	Noted - but not all see "risk management" as the solution to adaptation.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
103	45328	14	4	4	0	7	disaster risk management' is a broad set of activities that can be undertaken in every sector and for every natural disaster. It only partly overlaps with the aforementioned mentioned 'adapting to impacts of climate and weather'. I think it should be taken out of this shortlist - or it should be made more precise (Willem Pieter Pauw, German Development Institute (DIE))	Point noted, but authors decided to retain
104	45031	14	4	6	4	6	Worth defining what the 'novel risks' are a bit more, here or below; also note it could include 'types of change' E.g. The directional and long-term nature of change, and elements that differ to those in recent experience such as sea level rise acidification, changing atmospheric chemistry, etc - issues not in historical experience. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Agree - but retained as trying to keep within word limit
105	45329	14	4	13	0	15	These are all examples with a negative connotation; they all refer to danger from outside. A city like Rotterdam in the Netherlands also combines adaptation with the city's attractiveness (see Ward et al (2012). Governance of flood risk management in a time of climate change: the cases of Jakarta and Rotterdam. Environmental Politics, http://dx.doi.org/10.1080/09644016.2012.683155) (Willem Pieter Pauw, German Development Institute (DIE))	But this is a summary of AR4.
106	45746	14	4	22	4	22	Which barriers? (Roger Street, UK Climate Impacts Programme)	Still in text - need to fix
107	48750	14	4	33	0	42	I think this chapter should also define the concept of resilience (and chapters 15 and 17 use it - see Engle 2011). (ALEXIA LESEUR, CDC Climat Research)	A good point, but we decided not to go there. It is already 'defined' in other chapters and we felt that the resilience-vulnerability issue had been dealt with in earlier Reports. Also 'defining' resilience in a manner that would satisfy all readers would probably take a volume of its own.
108	45747	14	4	35	4	35	Reference to Chapter 2 regarding definition of maladaptation (Roger Street, UK Climate Impacts Programme)	Noted - and definition has changed in glossary
109	45032	14	4	36	4	36	add 'to' after 'relation' (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Redrafted
110	45748	14	4	37	4	38	What is the scope and nature of this examination of the need for adaptation and the manner in which the options are outlined? Need to provide a tighter focus for these. (Roger Street, UK Climate Impacts Programme)	Redrafted
111	47922	14	4	39	0	0	Either don't limit this to government action, or explain why it's limited to government (Jenny Frankel-Reed, USAID)	Missed in redraft - will take note for next draft
112	45749	14	4	39	4	39	Just mainstreaming of adaptation within government? Organisations and communities (non-governmental) could also benefit from mainstreaming / integration (Roger Street, UK Climate Impacts Programme)	Missed in redraft - will take note for next draft
113	45033	14	4	47	0	0	Somewhere in this section, need to acknowledge critique of current approaches to vulnerability and adaptive capacity indicators (Hinkel 2011) - this is discussed in some detail in Ch16-17 (Hinkel, J. (2011). "Indicators of vulnerability and adaptive capacity": Towards a clarification of the science-policy interface. Global Environmental Change 21, 198-208. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Now included in 14.6
114	45330	14	4	49	0	0	emissions should be 'greenhouse gas emissions' (Willem Pieter Pauw, German Development Institute (DIE))	Redrafted - no longer used
115	45750	14	4	50	4	50	Need to verify with WG1 as to what can be said about projections of variability and extremes (Roger Street, UK Climate Impacts Programme)	Noted - but phrase no longer used
116	48045	14	5	0	0	0	The section on institutional needs is good. Is the goal of the section to provide an overall picture? It would help to locate country-specific case studies that have attempted some of institutional adaptations. I understand that these case studies are hard to come by either because they don't exist or access is limited. I will try to locate some as well. (So-Min Cheong, University of Kansas)	Agree with need for case studies - trying to agree upon a common set across chpts 14-16
117	52111	14	5	4	5	18	In the definitional discussion of "adaptation" here, the chapter team should consider also referencing the definition for this report, as presented in the report glossary. (Katharine Mach, IPCC WGII TSU)	Noted - dealt with in FAQs
118	44388	14	5	6	0	8	This span is much broader (see comment above) including adaptation efforts focused on reducing risks, enhancing local capacity to adapt, as well as responses that target the societal processes generating vulnerability, including political and economic structures. (Linda Sygna, University of Oslo)	Agree, but we have to use the IPCC agreed definition. We have tried to pick up your point throughout the chapter.
119	45751	14	5	8	5	8	...reducing current and future risks, to minimising...' (Roger Street, UK Climate Impacts Programme)	Noted
120	45034	14	5	20	0	0	Omits capturing positive opportunities in the face of change (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Point noted - tried to pick this up in discussion of options
121	50844	14	5	20	0	0	The definition of adaptation needs given here differs slightly from that given on page 3 (lines 44-45), and the author team may wish to consider if the difference should be reconciled. (Katharine Mach, IPCC WGII TSU)	Redrafted
122	45752	14	5	20	5	20	Should this also include well-being of populations? I would suggest here and throughout the text there is a need to also consider aspects of adaptation associated with benefits that may result from changes in climate. This may require a sub-section similar to 14.2.1.1 (Roger Street, UK Climate Impacts Programme)	Point noted - tried to pick this up in discussion of options
123	35486	14	5	20	5	21	I think it would be good to explain why the chapter deals only with human systems and leaves out adaptation needs concerning natural systems (Susanna Kankaanpää, Helsinki Region Environmental Services Authority (HSY))	Redrafted but point is raised in section on EBA
124	54595	14	5	20	5	23	The author team may wish to add adaptation deficits in their definition of adaptation needs. (Monalisa Chatterjee, IPCC WGII TSU)	Considered but difficult - we don't really need a deficit
125	50845	14	5	26	0	0	Does the author team here mean to refer to Chapter 16 or to refer to both 15 and 16? (Katharine Mach, IPCC WGII TSU)	Redrafted
126	41114	14	5	27	5	30	Consider mentioning maladaptation here also. (Colette Mortreux, University of Melbourne)	Redrafted
127	45035	14	5	28	0	0	add 'or' after 'options' (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Noted
128	45036	14	5	28	0	30	The issue of hard and soft limits is covered repeatedly in chapters 14-17. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Unsure of point being made
129	45753	14	5	30	5	30	An example of the types of limits may be helpful (Roger Street, UK Climate Impacts Programme)	Text no longer appears

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
130	45037	14	5	33	0	0	Add useful recent reviews by Soares et al 2012 and Wolf (2012) (Soares, M. B., Gagnon, A. S., and Doherty, R. M. (2012). Conceptual elements of climate change vulnerability assessments: a review. International Journal of Climate Change Strategies and Management 4, 6-35.; Wolf, S. (2012). Vulnerability and risk: comparing assessment approaches. Natural Hazards 61, 1099-1113.) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Text extensively redrafted, but Soares ref not included
131	46068	14	5	33	0	0	Section 14.2.1.1 Perspectives on vulnerabilities: Vulnerabilities are again defined and discussed on this same Chapter, page 29 in relation to IPCC 2001 Ch 7. (Luis E. Garcia, World Bank)	Text redrafted
132	48906	14	5	33	0	0	section 14.2.1.1 perspectives, and 14.2.1.1.2 social perspectives - I wonder whether this section might include elements such as risk perception (Leon Soste, Department of Primary Industries, Victoria, Australia)	Text restructured and most of this section dropped
133	54596	14	5	33	0	0	Section 14.2.1.1. The author team may wish to coordinate with chapter 19 (19.2.) and chapter 11 that have also discussed definitions and frameworks for risk and vulnerability, etc., (Monalisa Chatterjee, IPCC WGII TSU)	Noted
134	53012	14	5	33	5	47	Please refer to the discussion of vulnerability in the SREX and the definition of vulnerability in the AR5 glossary. This paragraph is inconsistent with both. (Kristie L. Ebi, IPCC WGII TSU)	Text restructured and most of this section dropped
135	54599	14	5	33	7	52	Instead of paragraphs, the chapter team may consider adding this information in a synthetic table to highlight the different perspectives on vulnerabilities and reduce text material that may seem repetitive. (Monalisa Chatterjee, IPCC WGII TSU)	Considered and serious attempt made to do this, but found it not effective
136	41159	14	5	35	0	0	Section 14.2.1.1 Pg 5 line35- Given the other integrating subsections (14.2.2.2 and 14.2.2.3 and 14.2.2.4), this section would benefit from a sub-section on social-ecological perspectives to provide context and commentary surrounding the linkages across some of these perspectives, and to illustrate how resilience is associated with understanding adaptation and defining vulnerability. (Susan Evans, WWF-Canada)	Text restructured and most of this section dropped
137	45038	14	5	35	0	47	NB: need to acknowledge the growing critique of vulnerability assessments in failing to facilitate thinking toward adaptation and a growing focus on decision-centred approaches since UKCIP at least (from Willows & Connell 2003 at least). (Willows, R. and Connell, R. Eds.) (2003). 'Climate Adaptation: Risk, Uncertainty and Decision-Making.' pp 166. (UKCIP: Oxford.). In Australia, many users have become increasingly disenchanted with the Risk+Exposure=Impact+Adaptive Capacity=Vulnerability framing of earlier IPCC reports since it does not provide guidance on developing adaptation responses (but this remains dominant in the narrative of how to approach adaptation!). Increasingly decision-centred approaches are coming into use which focus on the areas of decision making first, swiftly iterate through impacts and vulnerabilities but only as a means to inform which areas of decision-making need more attention, and to develop adaptation options. This takes the focus away from a tendency to just work for more precision in the vulnerability indices rather than get into an adaptive management and learning cycle. There are many references for this, starting with UKCIP (but also e.g. Fig.2 in Meinke, H., Howden, S. M., Struik, P. C., Nelson, R., Rodriguez, D., and Chapman, S. C. (2009). Adaptation science for agriculture and natural resource management - urgency and theoretical basis. Current Opinion in Environmental Sustainability 1, 69-76) , and e.g. guidelines for South Australian Local Government about to be promulgated (as well as many others) which tend towards this approach. It would be useful with AR5 to make a strong framing statement about this issue. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Good point - we have added a point about decision-centred approaches in 14.5.3
138	41162	14	5	36	5	38	Section 14.3.1.1 pg 15 line 36-38 - it is not clear what is meant by "incorporating climate resilience". I suggest you be more specific here perhaps by indicating "...to incorporate multi-scalar, inter-departmental approach that incorporates resilience thinking into new policies..." See also Walker and Salt 2006. Walker, B. and D. Salt. 2006. Resilience Thinking: Sustaining ecosystems and people in a changing world. Island Press, Washington. (Susan Evans, WWF-Canada)	Text restructured and most of this section dropped. Maybe too much of this text has been dropped. Await further comments
139	52112	14	5	36	5	39	For this definitional discussion of "vulnerability," the chapter team should consider also referencing the definition for this report, as presented in the report glossary. (Katharine Mach, IPCC WGII TSU)	Good point - we have added a point about decision-centred approaches in 14.5.3
140	44389	14	5	41	0	47	This part explaining the underlying causes of vulnerability at different scales and for different social groups can be made more clear. More references are needed and assessment (not review) of this literature. This does not have to go in detail but it will give the reader an overview of the range of different factors potentially contributing to vulnerability and such an overview will lead into a more detailed discussion on biophysical, social, political and economic factors. (Linda Sygna, University of Oslo)	Similar response to your earlier comments
141	48479	14	5	42	5	42	Should "exposure" instead read "vulnerability"? (David Hole, Conservation International)	Text restructured and most of this section dropped
142	35487	14	5	42	5	47	Also developed countries can be vulnerable because of their "developed" stage: for example the Finnish society is highly dependent on functioning technical networks and a steady supply of energy, especially electricity. Any disturbances to the functioning of the networks such as natural hazards can create damages and also due to the expensive infrastructure, high costs. The Finnish Safety Investigation Authority published a report in 2011 dealing with these "new" vulnerabilities when they studied the case of thunderstorm damages in Finland and the authorities operations during the special situation (report in Finnish and summary in English available at http://www.turvallisuustutkinta.fi/en/1279614262854) (Susanna Kankaanpää, Helsinki Region Environmental Services Authority (HSY))	Text restructured and most of this section dropped
143	48751	14	5	44	0	44	the method in itself seems correct but the problem is to take non-monetary aspects into account (see chapter 17) (ALEXIA LESEUR, CDC Climat Research)	Text restructured and most of this section dropped
144	38888	14	5	45	5	46	At the individual level it is shaped by personal characteristics such as gender, EDUCATION, and health as well as by social status and networks (Mohamed Tawfic Ahmed, Suez Canal University)	Text restructured and most of this section dropped
145	45275	14	5	45	5	46	"At the individual level it is ALSO/ADDITIONALLY shaped by personal characteristics such as gender and health as well as by social status and networks", because the aspects mentioned in the previous sentence are still valid for the individual level (Marcus Kaplan, German Development Institute)	Text restructured and most of this section dropped

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
146	48907	14	5	49	5	50	multiple sources of stress' - also highlights that vulnerability is linked to a timeframe (ie I may not be vulnerable now, but that may change in the future)- eg rapid onset events (p7, line 8) (Leon Soste, Department of Primary Industries, Victoria, Australia)	Text restructured and most of this section dropped
147	44789	14	5	52	0	54	suggest adding population pressure to the list of stressors in Africa. (Karen Hardee, Futures Group)	Text restructured and most of this section dropped
148	54598	14	5	53	6	1	The chapter team may refer to relevant sections in Africa Chapter (22). (Monalisa Chatterjee, IPCC WGII TSU)	Text restructured and most of this section dropped
149	53013	14	6	1	6	3	This could be one place to discuss changes over time. (Kristie L. Ebi, IPCC WGII TSU)	Text restructured and most of this section dropped
150	41749	14	6	11	6	15	In fact, the concept of vulnerability is much older than indicated in this sentence. Moreover, the two references provided neglect a huge part of the vulnerability discourses and the use of the concept in other domains, e.g. environmental change and disaster risk reduction. It is suggested to include some original work, or at least review papers that cover these aspects and references. Three appropriate articles are e.g.: Dow, K. & Downing, T.E. (1995): Vulnerability research: where things stand. Human Dimensions Quarterly (1): 3-5.; Weichselgartner, J. (2001): Disaster mitigation: the concept of vulnerability revisited. Disaster Prevention and Management 10 (2): 85-94.; McEntire, D.A. (2005): Why vulnerability matters: exploring the merit of an inclusive disaster reduction concept. Disaster Prevention and Management 14 (2): 206-222. (Juergen Weichselgartner, University of Kiel)	Text restructured and most of this section dropped - but much of this has been discussed in previous IPCC reports
151	45039	14	6	12	0	0	also Soares et al 2012, op cit (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Text restructured and most of this section dropped
152	53014	14	6	12	6	13	Please refer to the discussion of vulnerability in the SREX. (Kristie L. Ebi, IPCC WGII TSU)	Text restructured and most of this section dropped
153	45754	14	6	12	6	15	Would also suggest Preston and Stafford-Smith (2009) Framing vulnerability and adaptive capacity assessment (Roger Street, UK Climate Impacts Programme)	Text restructured and most of this section dropped - but reference used elsewhere
154	45040	14	6	15	0	0	But also highlights complex causation giving strength to critiques of indicators (e.g. Hinkel 2011 op cit). (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Text restructured and most of this section dropped - but reference used elsewhere
155	45041	14	6	22	0	0	But rarely proven in specific studies (see Hinkel 2011 op cit). This is a good example of the tendency to produce shopping lists of possible causes rather than rigorous analysis of what is important in what circumstances (cf. parallel in causes of desertification, Geist, H. J. (2004). 'The Causes and Progression of Desertification.' (Ashgate: Burlington VT.)) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Text restructured and most of this section dropped
156	45331	14	6	24	0	27	This speaks for itself, but still needs a reference. (Willem Pieter Pauw, German Development Institute (DIE))	Text restructured and most of this section dropped
157	45332	14	6	29	0	0	the poor' needs explanation. Are these the poorest people within countries all over the world; are these the world's poorest, the poor in developing countries or the poor in developed countries? These are all very different groups with different social security, education, knowledge, dependence on the climate for their livelihood, etc. (Willem Pieter Pauw, German Development Institute (DIE))	Text restructured and most of this section dropped
158	45333	14	6	32	0	0	Provide some of these 'numerous examples' to illustrate who these 'poor' are, what they are adapting to, and under what circumstances. (Willem Pieter Pauw, German Development Institute (DIE))	Text restructured and most of this section dropped
159	45755	14	7	6	7	6	What is meant by 'address' vulnerabilities? (Roger Street, UK Climate Impacts Programme)	Text restructured and most of this section dropped
160	53015	14	7	7	8	17	You also could refer to the conclusions of the UK Foresight report on migration. (Kristie L. Ebi, IPCC WGII TSU)	Text restructured and most of this section dropped
161	45276	14	7	8	7	17	This paragraph does not fit into the section on political perspectives (Marcus Kaplan, German Development Institute)	Text restructured and most of this section dropped
162	45756	14	7	8	7	17	How does this paragraph relate to a political perspective? (Roger Street, UK Climate Impacts Programme)	Text restructured and most of this section dropped
163	45757	14	7	20	7	20	May wish to move this sub-section adjacent to 14.2.1.1.2 (Roger Street, UK Climate Impacts Programme)	Text dropped - all to be dealt with in Chpt 17
164	45042	14	7	22	0	0	But rarely proven in specific studies (see Hinkel 2011 op cit). This is a good example of the tendency to produce shopping lists of possible causes rather than rigorous analysis of what is important in what circumstances (cf. parallel in causes of desertification, Geist, H. J. (2004). 'The Causes and Progression of Desertification.' (Ashgate: Burlington VT.)) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Text dropped - all to be dealt with in Chpt 17
165	45758	14	7	32	7	52	How does this text related to that presented in Chapter 17. For Chapter 14, is it not important to pull out the economics perspectives and not necessarily the methodologies? (Roger Street, UK Climate Impacts Programme)	Text dropped - all to be dealt with in Chpt 17
166	50846	14	7	32	7	52	The author team should consider cross-referencing chapter 17 here and ensuring appropriate consistency of assessment across the chapters. (Katharine Mach, IPCC WGII TSU)	Text dropped - all to be dealt with in Chpt 17
167	45759	14	7	34	7	36	Need to include the costs of monitoring and evaluation (Roger Street, UK Climate Impacts Programme)	Text dropped - all to be dealt with in Chpt 17
168	53016	14	7	36	7	36	It would be better to refer to the AR5 glossary. (Kristie L. Ebi, IPCC WGII TSU)	Noted
169	40929	14	7	37	7	46	In referencing World Bank study, would be useful to say what route the study actually chose to do? i.e. estimated the cost of eliminating impacts from climate change in all sectors except the coastal, where it chose the cost-benefit instead. (Frances Moore, Stanford University)	Text dropped - all to be dealt with in Chpt 17
170	43171	14	7	45	7	46	non-monetary losses should receive more attention - in line with e.g. the 'beyond GDP' approach (Jean Hugé, Ghent University)	Text dropped - all to be dealt with in Chpt 17
171	43359	14	7	48	7	48	This reference is not clear, and it is not included in the reference list. The Economics of Climate Adaptation Working Group has published a document "Shaping Climate Resilience" in 2009 (http://ec.europa.eu/development/icenter/repository/ECA_Shaping_Climate_Resilient_Development.pdf) but I am not aware of the 2011 publication indicated here. (Hans-Martin Füssel, European Environment Agency)	Text dropped - all to be dealt with in Chpt 17
172	53017	14	7	48	7	52	An example would be helpful. (Kristie L. Ebi, IPCC WGII TSU)	Text dropped - all to be dealt with in Chpt 17
173	54600	14	8	1	0	0	Section 14.2.1.2. The chapter team is encouraged to look at the glossary definition of 'Adaptive capacity' and also consider explicitly adding the concept of resilience in the discussion. (Monalisa Chatterjee, IPCC WGII TSU)	Are you implying that we are misusing the term adaptive capacity. In which case how?

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
174	48752	14	8	1	0	23	I think this paragraph should appear at the beginning of page 6 as it is linked to the definition of vulnerability, and social and political perspectives are linked to the adaptive capacity. (ALEXIA LESEUR, CDC Climat Research)	Text restructured and most of this section dropped
175	43830	14	8	1	8	23	I am surprised how many of the references are little different from the 2007 AR4. (Pam Berry, Oxford)	Agree - this section dropped
176	45277	14	8	3	8	4	Adaptive capacity is not only restricted to countries or sub-national bodies, but also relates to households or individuals (Marcus Kaplan, German Development Institute)	Noted - but this section dropped
177	41397	14	8	3	8	23	As this section defines what adaptive capacity constitutes it would be good to also mention the concept of resilience and to line out their differences. (Sven Harmeling, Germanwatch)	Noted - but this section dropped
178	52113	14	8	4	8	6	In introducing the term "adaptive capacity," the author team could also referred to the entry for the term in the report glossary. (Katharine Mach, IPCC WGII TSU)	Noted
179	45760	14	8	6	8	7	This action often also occurs following post-event assessments. (Roger Street, UK Climate Impacts Programme)	Noted - but this section dropped
180	41993	14	8	9	0	0	Engle and Lemos reference should be 2010, not 2009 (Nathan L. Engle, 2011-2012 AAAS Science and Technology Policy Fellow)	Cited elsewhere and fixed - thanks
181	45334	14	8	10	0	11	And education, access to markets, available infrastructure, etc. (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped
182	45278	14	8	10	8	10	tangible resources - include a reference to chapter 13 here? (Marcus Kaplan, German Development Institute)	Noted - but this section dropped
183	49094	14	8	13	8	14	The references should be listed chronologically, this seems to be the case in several other places throughout the chapter. (Oyvind	Noted and checked
184	45335	14	8	16	0	17	In developing countries it is very often related to the local level (see also Smit and Pilifosova, 2003) (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped
185	45336	14	8	17	0	19	It does not make sense to heap up poor people and SIDS. Either focus on groups of countries, on groups of vulnerable people, or on vulnerable people (poor, rural, exposed, etc; see upcoming IDRC/Springer book on CCAA project) within vulnerable countries (SIDS, LDCs, Africa, according to COP) (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this is often done in negotiations - also this section dropped
186	45279	14	8	17	8	18	"developing countries ... have limited adaptive capacity" - that is VERY general and I am wondering if this could not be narrowed down a bit (e.g., LDCs)? (Marcus Kaplan, German Development Institute)	Noted - but this section dropped
187	45337	14	8	19	0	0	as a result' - but this does not naturally results from what is said in the previous line (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped
188	45338	14	8	20	0	24	What I miss here is something about adaptation finance, and how it relates to development and ODA. (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped
189	45043	14	8	26	0	0	Mainstreaming' probably needs definition, at least for use here; again it is a term used widely and with somewhat different intent through the Adaptation chapters (sometimes specifically in relation to development, otherwise in policy and other decision-making etc more generally) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Noted - but we have dropped this section - goes to Chpt 15 as it is more to do with implementation
190	53018	14	8	26	0	0	This section should discuss some of the challenges with mainstreaming. (Kristie L. Ebi, IPCC WGII TSU)	Noted - but this section dropped
191	45761	14	8	26	8	44	The role of mainstreaming when considering transformational adaptation as it may be different than when considering incremental or coping actions. (Roger Street, UK Climate Impacts Programme)	Good point - please see our new text on transformation
192	52433	14	8	26	11	35	suggesting increase Integrating with eliminate poverty (Jian Guo WU, Chinese Academy of Environmental Sciences)	Noted - but this section dropped
193	41160	14	8	29	8	30	Section 14.2.2 Pg 8 line 29-30 – I would argue that mainstreaming should be about more than simply 'linking' adaptation to national and local goals and priorities, it should also be about including climate change information about impacts, vulnerabilities, risk and adaptive capacity to shape priorities, or as stated in section 14.3.1.1 pg 15 line 21 "adopting a climate lens". There will be cases where inclusion of climate change information (looking through a climate lens) will reveal modification to an existing priority may be required. Section 14.3.1.1 pg 15 line 36 references this by indicating re-calibration of existing policies may be necessary. (Susan Evans, WWF-Canada)	Agree with point - but shouldn't national planning already encompass many of those alternative sources of information. Looking with a climate lens is clearly an often used alternative phrase but comes with its own set of problems. In fact the "anti-mainstreamers" say "you are just changing the term, but still trying to force your concerns on us".
194	54601	14	8	30	8	34	Some examples would be very useful to understand the synergies discussed here. (Monalisa Chatterjee, IPCC WGII TSU)	Noted - will you allocate us the extra space?
195	41161	14	8	32	8	34	Section 14.2.2 Pg 8 line 32-34 – In addition to ongoing activities, mainstreaming should also emphasize synergies in future planned activities. (Susan Evans, WWF-Canada)	Don't follow point
196	54602	14	8	38	8	39	Some explanation of what are remedial costs would be very useful. (Monalisa Chatterjee, IPCC WGII TSU)	Noted
197	52767	14	8	47	0	0	Section 14.2.2.1 could benefit from an additional reference to Moser's analysis of linkages between mitigation and adaptation: Moser, S. (2012). Adaptation, mitigation, and their disharmonious discontents. Climatic Change. 111 (2): 165-175. One point made therein is that synergistic policies, although potentially important, should not necessarily be prioritised. There is a risk in the desire to harmonize climate policies to disfavour stand-alone policies. This point is not made in this section as it stands. (Tim Rayner, University of East Anglia, Tyndall Centre for Climate Change Research)	Agree, but section dropped - see Chpt 20
198	45762	14	8	49	8	51	Viewing as relatively separate issues also stems from the original framing (by some) of climate change as an environmental / pollution issue that could be stopped through mitigation actions (Roger Street, UK Climate Impacts Programme)	Agree, but section dropped - see Chpt 20
199	44390	14	8	49	9	2	This statement is long lived, and there is not much focus on seeing these two responses together in a broader development perspective, neither in practice nor in research. We have said that there has been a growing recognition for quite some years now, and there is little to show to. Would therefore consider changing the wording on this to a much more critical of the lack of integration and also include references that calls for an holistic approach to climate change. (Linda Sygna, University of Oslo)	Noted - but this section dropped

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
200	47246	14	8	53	9	2	The assertion of complementarity between mitigation and adaptation is rather strong and the readings provided do not supported. This needs to be qualified, particularly as such complementary seems to be specific for certain cases and sectors. It is also not clear what the term 'co-benefits' refers to in this context - co-benefits of adaptation to mitigation, viceversa, or co-benefits of sustainable development to mitigation and adaptation? 4AR gave a fair treatment to this discussion, and it might useful to reexplore concepts like synergies, tradeoff, etc before asserting the ideas contained in these lines. (Juan Hoffmaister, Third World Network)	Agree - but this section dropped
201	45763	14	8	54	9	1	...adaptation measure can be complementary and there is the potential for co-benefits...' Not necessarily always the case (see language in Chapter 2 and on page 9 of Chapter 14) (Roger Street, UK Climate Impacts Programme)	Noted - but this section dropped
202	43831	14	9	2	0	0	Could also cite Paterson et al which is used in Chapter 23 p41 L10 Paterson, J.S., Araújo, M.B., Berry, P.M., Piper, J.M., and Rounsevell, M.D.A.R. (2008) Mitigation, adaptation and the threat to biodiversity. Conservation Biology, 22, 1352-1355. Or Berry, P.M. And Paterson, J.S. (2009) Energy mitigation, adaptation and biodiversity: synergies and antagonisms. Beyond Kyoto: Addressing the Challenges of Climate Change. IOP Conference Series: Earth and Environmental Science 8, 012023. Doi:10.1088/1755-1315/8/1/012023. (Pam Berry, Oxford)	Noted - but this section dropped
203	46069	14	9	4	9	15	Hard to differentiate here what really is mitigation and what adaptation (Luis E. Garcia, World Bank)	Noted - but this section dropped
204	54603	14	9	4	9	29	Author team is encouraged to have a balance in examples from developed and developing countries. (Monalisa Chatterjee, IPCC WGII TSU)	We have, but it cannot be achieved in every paragraph
205	48753	14	9	8	0	10	It is worth giving some examples of renewable energy (wind farms, hydro?) that foster adaptation (ALEXIA LESEUR, CDC Climat Research)	Noted - but this section dropped
206	45764	14	9	12	9	15	Insulation of buildings and increased potential for overheating is another example. (Roger Street, UK Climate Impacts Programme)	Noted - but this section dropped
207	53019	14	9	17	9	29	This discussion of co-benefits should include some health examples. A special issue of Lancet about 18 months ago has a number of examples. Chapters 11 and 17 also discusses co-benefits. (Kristie L. Ebi, IPCC WGII TSU)	Noted - but this section dropped
208	45765	14	9	20	9	21	Corridors are of a concern as they can also allow for movement of pests and diseases (forest and agriculture) (Roger Street, UK Climate Impacts Programme)	Agree - but this section dropped
209	39175	14	9	32	0	0	Section 14.2.2.2. Why not terming this section "Integrating with Sustainable Development" as this is was most of the section refers to? Furthermore, this paper maybe interesting for this section/chapter since it provides an example of the relations between Adaptation and Sustainable Development: Reyer C, J Bachinger, R Bloch, FF Hattermann, PL Ibisch, S Kreft, P Lasch, W Lucht, C Nowicki, P Spatthelf, M Stock, M Welp 2011. Climate change adaptation and sustainable regional development: a case study for the Federal State of Brandenburg, Germany. Regional Environmental Change DOI 10.1007/s10113-011-0269-y (Christopher Reyer, Potsdam Institute for Climate Impact Research)	Good point, but we were intending to tackle development in developing countries (all development should be sustainable). But section dropped although some points integrated elsewhere in SOD text.
210	41398	14	9	32	9	32	Make it "sustainable development" instead of only "development" (Sven Harmeling, Germanwatch)	Agree, but took this as obvious, which we should not. But text dropped.
211	39333	14	9	34	0	0	Section 14.2.2.2. Whilst the need to integrate adaptation with development is well laid out, the section never mentions that there is also a potential downside, on the supply side, to mainstreaming adaptation. The risk qua recipient of adaptation funding is that a strengthened link to development aims or policies enables donors to subsume adaptation funding under Official Development Assistance, and not putting up the „new and additional“ funds developing countries have consistently demanded. These more pessimistic considerations about a far-reaching integration between adaptation finance and development assistance are well laid out in Ciple, Roberts & Khan, „The Politics of International Adaptation Funding - Justice and Divisions in the Greenhouse“, Global Environmental Politics, in press, which the chapter might want to cite. (Goran Duus-Otterstrom, University of Gothenburg)	Good point - but this material is now to be discussed by Chpt 15
212	42882	14	9	34	0	0	14.2.2.2: This section should refer practical examples. Please consider to add the following book (and in particular, its Chapter 4) which mentions the relationship between development assistance projects and climate change adaptation. It includes many practical examples based on conceptual discussion as well as real projects. The full citation information is as follows: JICA Research Institute, Nov. 2010, Climate Change Adaptation and International Development : Making Development Cooperation More Effective, Edited by Ryo Fujikura and Masato Kawanishi, 400pp., Earthscan Pubns Ltd., ISBN-13 code: 978-1849711524 http://jica-ri.jica.go.jp/publication/other/climate_change_adaptation_and_international_development_making_development_cooperation_more_effectiv.html (Mariko Fujimori, Pacific Consultants Co., Ltd.)	Useful source - but section dropped

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
213	44391	14	9	34	0	0	In this opening to the discussion on the links between adaptation and development it would be good to have a broader framing of the issue. One of the main conclusions from the SREX is that vulnerability is closely linked to the social, economic and development policies. Risk is therefore not only an outcome of "failed" development, it is also shows current failures to seize upon disaster risk as a way to galvanize development trajectories that can break the cycles of poverty (ref. O'Brien and Pelling, forthcoming, The IPCC SREX Report on Changing Climate Extremes: Implications for discourse and practice", Global Environmental Change). Therefore there is a need to address "the underlying causes of vulnerability, including the structural inequalities that create and sustain poverty and constrain access to resources" (IPCC, 2012, p. 18). O'Brien and Pelling (2012) and many others argues for responses beyond integrating adaptation with development to really question business as usual/status quo or what is consider a normal or stable situation, and focus on the structural inequalities. We know that human actions, often also actions with good intentions, are changing risks and are altering disaster impacts. Schipper (2012, Transformative adaptation, Capacity.org. Available online: http://www.capacity.org/capacity/opencms/en/topics/adapting-to-climate-change/transformative-adaptation.html) notes that there is a "growing community of scholars now arguing that adaptation must embody this urgent need to rethink existing development approaches". In the chapter and the sentence on page 10, line 52 (on integrating with DRR supports the argument above but it should also be brought up in the section on integrating with development ". Also this discussion needs to be made broader to include development in developed countries. (Linda Sygna, University of Oslo)	Again - agree that these points should be discussed, but they are now with Chpt 15
214	45280	14	9	34	9	35	The information in this first sentence of this section is so banal, it should be deleted. (Marcus Kaplan, German Development Institute)	Agree - section deleted
215	45766	14	9	39	9	39	increasing rate of glacial melt usually results in more water in the short-term and eventually to water shortages when there is less melt (Roger Street, UK Climate Impacts Programme)	Agree - the sentence was wrong - but section deleted
216	45767	14	9	41	9	45	Recognise that there will also potentially be conflicts and the need to identify tradeoffs (different perspectives held by different stakeholders) (Roger Street, UK Climate Impacts Programme)	Noted - but this section dropped
217	45339	14	9	43	0	45	where? By whom? 'Forced' by multilateral agencies or on own initiative? (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped
218	41994	14	9	47	0	0	The nuances between sustainability and adaptation are a little more complex than conveyed here. I think that Brown (2011) has a lot to offer on this topic and should be cited: Brown, K., 2011 Sustainable Adaptation: An Oxymoron? Climate and Development 3:21-31. Also, on the Integrating with Development section as a whole, I would also recommend citing the World Bank's 2010 World Development Report. (Nathan L. Engle, 2011-2012 AAAS Science and Technology Policy Fellow)	Good point - this citation is used elsewhere in the SOD 14.7 albeit briefly
219	52114	14	9	47	9	48	The chapter team might consider cross-referencing the glossary for the report in introducing the concept of "sustainable development." (Katharine Mach, IPCC WGII TSU)	Do we still need to discuss such basic terms in the 5th Assessment report?
220	53020	14	9	47	9	48	The temporal scale should be discussed. (Kristie L. Ebi, IPCC WGII TSU)	Noted - but this section dropped
221	45340	14	9	49	0	0	they' should be 'these agendas' (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped
222	45768	14	9	50	9	53	Note that building adaptive capacity can also support sustainable development. (Roger Street, UK Climate Impacts Programme)	Agree - but section dropped
223	35750	14	10	2	10	2	Insert "The concern of environment in the developmental activities were addressed after the UN global conference. Most governments have introduced Environmental Impact Assessment (EIA) as a mandatory requirement for the developmental projects. Recently, the environmental consequences due to the impact of floods in central Europe and of hurricanes Katrina and Rita on the oil production facilities in the Gulf of Mexico contributed to arise a public awareness on NaTech events (Cruz and Krausmann, 2009; Santella et al, 2010).To address climate change associated social and environmental risks, there is also a need to include the future predicated trends along with the past data which is being considered while performing EIA." (Jitendra Desai, Reliance Industries Limited)	Noted - but this section dropped
224	44392	14	10	7	0	0	References to consider: Eriksen, S. Aldunce, P., Bahinipati, C., Martins, R. Molefe, J. Nhemachena, C., O'Brien, K., Olorunfemi, F. Park, J., and Ulsrud, K. 2011. When not every response to climate change is a good one: Identifying principles for sustainable adaptation. Climate and Development 3:7-20;Brown and Eriksen (2011) in the ref. list. (Linda Sygna, University of Oslo)	Thank you - section deleted but citation used elsewhere in SOD 14.7
225	48480	14	10	10	10	10	"...will have negative..." should read "...could have negative..." (I'm a co-author of the cited paper) (David Hole, Conservation International)	Thank you for the important correction. This part of the text has been dropped but the paper is still referred to elsewhere in the SOD 14.3.1
226	45044	14	10	14	0	25	this is a useful discussion of the developing/developed country perspective that could do with being articulated near the start of the chapter and then used to frame similarities or differences in many sections. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Noted - but this section dropped
227	44839	14	10	14	10	25	I suggest also citing Eakin and Patt. Clim Change 2011 2 141-153 DOI: 10.1002/wcc.100. (Joel Smith, Stratus Consulting Inc.)	Noted - but this section dropped
228	45769	14	10	14	10	25	Is there a north-south difference in the context of building adaptive capacity? (Roger Street, UK Climate Impacts Programme)	Probably - but section dropped
229	40899	14	10	14	10	26	Another difference is the hierarchical power structure and the emphasis on top-down (developed economies) vs bottom-up (developing economies) approaches and decision priorities. (Lynn Wilson, SeaTrust Institute)	Noted - but this section dropped
230	46696	14	10	28	0	0	Section 14.2.2.3: The new publication on 'Climate Smart Disaster Risk Management (CSDRM) has also emerged lately which can be referred in a unique way, More on CSDRM can be found at: http://www.csdm.org (Atiq Kainan Ahmed, Asian Disaster Preparedness Center (ADPC))	Thank you - a useful publication, but this section has been dropped
231	53021	14	10	28	10	28	Please change all instances of disaster risk reduction to disaster risk management as the later is a broader perspective (see SREX glossary). (Kristie L. Ebi, IPCC WGII TSU)	Noted

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
232	45770	14	10	28	11	6	Could start with the key relevant conclusion from the SREX and then what has been learnt since. (Roger Street, UK Climate Impacts Programme)	Agree - but section dropped
233	35751	14	10	40	10	40	A sentence may be inserted to give clarity in integration process. "To address Natch events there is a need of simultaneous respond to the technological disaster as well as to the triggering natural disaster and hence such scenario are also to be considered and integrated with the disaster risk reduction planning both at local and national levels." (Jitendra Desai, Reliance Industries Limited)	Noted - but this section dropped
234	50847	14	10	51	10	51	The author team may wish to consider phrasing on this line to avoid potential interpretations of policy prescriptiveness. For example, it seems that "are addressing" or "aim to address" may be similar to the intended meaning, without implying any imperatives for action. (Katharine Mach, IPCC WGII TSU)	Agree - but section dropped
235	44393	14	11	1	0	6	This discussion would benefit from drawing on chapter 8 in SREX on the role of transformative responses towards more resilient societies. (Linda Sygna, University of Oslo)	Noted - but this section dropped
236	53022	14	11	1	11	6	This is another place where the iterative nature of adaptation could be discussed. (Kristie L. Ebi, IPCC WGII TSU)	Noted - but this section dropped
237	49095	14	11	11	11	22	Ethiopia and Mozambique are African countries that have implemented national climate adaptation plans successfully. To make this section more balanced you should find more references to developing countries that have implemented such plans. (Oyvind Christophersen, Climate and Pollution Agency)	Noted - but this section dropped - see Chpt 15
238	45771	14	11	11	11	35	May also want to include the UK National Adaptation Plan and the London Adaptation Strategy. Also note that many local governments have climate change strategies primarily focussing on mitigation. Some also include adaptation considerations, but these may also provide an opportunity to consider adaptation (Roger Street, UK Climate Impacts Programme)	Noted - but this section dropped - see Chpt 15
239	45341	14	11	14	0	15	Please elaborate. Apart from Burkina Faso there are 45 other countries that developed NAPAs, which all include climate adaptation plans and strategies (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped - see Chpt 15
240	45342	14	11	24	0	26	Local governments are OFTEN responsible for ISSUES THAT STRONGLY RELATE TO ADAPTATION, SUCH AS ensuring the safety, security, and well-being of their residents through efforts (Willem Pieter Pauw, German Development Institute (DIE))	Agree with comment - but this section dropped - see Chpt 15
241	48754	14	11	24	0	35	It is worth saying if it is generally based on a voluntary approach or if it is based on a national legislation. According to our work based on 5 European countries (Dumollard G and Leseur A (2011) Drawing up a national adaptation policy: feedback on five European case studies, CDC Climat Research report, Paris), national legislation seem to have fostered local adaptation measures even if awareness of local impacts of climate change existed at the local level and have fostered local adaptation policies (see the French Grenelle 2 law that set up the institutional framework for implementing adaptation measures at the local level by the local decision makers). (ALEXIA LESEUR, CDC Climat Research)	Noted - but this section dropped - see Chpt 15
242	41399	14	11	24	11	35	It would be good if you could outline the advantages and disadvantages about a cross-sectoral and sectoral approach in regard to integrating adaptation within local policies, plans, and ongoing activities. (Sven Harmeling, Germanwatch)	Noted - but this section dropped - see Chpt 15
243	44176	14	11	24	11	35	In section 14.2.2.4 there is discussion on local experiences of adaptation. There is a new Special Issue of Local Environment (2012, Vol. 17, No. 6-7, p. 573-767) on experiences of local adaptation in the Nordic countries that touch on many of these issues. (Sirku Juhola, Aalto University)	Noted - but this section dropped - see Chpt 15
244	40296	14	11	32	11	32	Some clarification of the nature of the challenge facing local governments is important to state. consider inserting: "Problems of limited vertical integration between different governmental levels also frequently limits the incorporation of higher level objectives into local policies." (McGloughlin, J. and Sweeney, J. Multilevel climate policies in Ireland, Irish Geography 44, 137-150.; Willbanks, T.J. (2007) Scale and sustainability, Climate Policy 7, 278-287.) (John Sweeney, National University of Ireland Maynooth)	Noted - but this section dropped - see Chpt 15
245	38889	14	11	38	0	0	Challenges in Adaptation: A sub section about Public Awareness should be added (Mohamed Tawfic Ahmed, Suez Canal University)	Noted and more references to awareness added - but this section dropped - covered in Chpt 16
246	43833	14	11	38	0	0	These might provide useful local studies BURCH, S. (2010) In pursuit of resilient, low-carbon communities: An examination of barriers to action in three Canadian cities. Energy Policy, 38, 7575-7585. BURCH, S. (2010) Transforming barriers into enablers of action on climate change: Insights from three case studies in British Columbia, Canada. Global Environment Change, 20, 287-297. (Pam Berry, Oxford)	Noted - but this section dropped - see Chpt 15
247	45772	14	11	40	11	40	Need to include the challenges with managing the opportunities associated with a changing climate (Roger Street, UK Climate Impacts Programme)	Not quite sure of what is meant - but most 'challenges' discussion left to Chpt 16
248	45045	14	11	42	0	44	challenges 'which are' discussed, not 'and'??? And add fullstop at end of sentence (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Noted - but this section dropped - see Chpt 15
249	45773	14	11	43	11	44	also tools that support decisions. (Roger Street, UK Climate Impacts Programme)	Noted - but this section dropped - see Chpt 16
250	53023	14	11	47	0	0	This section should include a discussion of what is needed for scaling up. (Kristie L. Ebi, IPCC WGII TSU)	Noted - but this section dropped - see Chpt 16
251	44394	14	11	47	12	19	This discussion needs to be broader on challenges of scaling up adaptation, especially since this is a framing chapter and it leads into more detailed discussions in chapters that follows. That means that literatures on transformative adaptation needs to be considered (Wilbanks, Pelling etc). Scaling up would involve new policies and institutional frameworks. (Linda Sygna, University of Oslo)	More material on transformative change in Intro (14.1) and 14.3.4.
252	48043	14	11	47	12	19	scaling 'up' is confusing as the trajectory is upward and we tend to correlate with bottom-up approaches. Perhaps another word might describe both top-down and bottom-up processes that are comprehensive. In the discussion of scale issues, temporal and geographic scales are considered main themes, and the problems of adaptation in both arenas need to be addressed. (So-Min Cheong, University of Kansas)	Noted - but this section dropped - see Chpt 16

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
253	54604	14	12	7	12	12	The chapter team may consider adding a table highlighting some examples of safety nets (Monalisa Chatterjee, IPCC WGII TSU)	Noted - see new 14.3.1
254	52768	14	12	14	12	19	Brouwer et al (forthcoming) offer further evidence of how climate concerns are being integrated into on-going govt initiatives in the case of the water sector: See Brouwer, S., T. Rayner and D. Huitema (forthcoming). 'Mainstreaming climate policy: the case of climate adaptation and the implementation of EU water policy'. Environment and Planning (C). (Tim Rayner, University of East Anglia, Tyndall Centre for Climate Change Research)	Noted - but this section dropped - see Chpt 16
255	41400	14	12	16	12	19	Please add "urban planning" to those examples. (Sven Harmeling, Germanwatch)	Noted - but this section dropped - see Chpt 16
256	39063	14	12	22	0	0	Recent work on cross-scale barriers has been done in Australia to understand what enabling strategies and actions can be implemented to overcome inter institutional challenges for the planning and implementation of adaptation at local government level. See Mukheibir P, Kuruppu N, Gero A, Herriman J, 2012 Cross-Scale Barriers to Climate Change Adaptation in Local Government, Australia, [prepared for NCCARF] National Climate Change Adaptation Research Facility (Pierre Mukheibir, University of Technology Sydney)	Noted - may be added to Institutional discussion, but have not accessed reference as yet.
257	52769	14	12	22	0	0	Section 14.2.3.2. Also worth citing here: Dovers, S.R., Hezri, A.A. (2010). Institutions and policy processes: the means to the ends of adaptation. WIREs Climate Change 1: 212-231. There is slightly more that could be made of the Urwin and Jordan (2008) reference here as well. It highlights how efforts to adapt at local level may be prevented by the existence of policy frameworks/ legislation at higher levels that, although they may at face value have nothing to do with adaptation, in fact impose constraints. (Tim Rayner, University of East Anglia, Tyndall Centre for Climate Change Research)	Noted and good point - but this section dropped - see Chpt 16
258	41401	14	12	24	12	49	There are two other challenges that you might want to add: Government structures are often build on past-oriented structures that do not specifically target at innovative approaches but rather promote the BAU. There is the existence of a silo-working style in many local governments. (Sven Harmeling, Germanwatch)	Noted - but this section dropped - see Chpt 16
259	48044	14	12	24	14	31	As there are a lot of talk about coordination difficulties, it would be good to provide specific country examples to strengthen this popular claim. (So-Min Cheong, University of Kansas)	Noted - but this section dropped - see Chpt 16
260	48908	14	12	26	12	27	level of co-ordination can be a challenge' - agree - this is a real problem which may require external support for government to overcome, ie policy makers within an individual department may not have the time / skills / authority to develop a framework for coherent governance. That may require encouragement and resourcing from an external source such as a national climate research facility (Leon Soste, Department of Primary Industries, Victoria, Australia)	Noted - but this section dropped - see Chpt 16
261	45774	14	12	26	12	31	Coordination will also need to cut across different orders / levels of government and public-private organisations (Roger Street, UK Climate Impacts Programme)	Noted - but this section dropped - see Chpt 16
262	35827	14	12	33	0	39	This analysis of decision making at the local level ignores the role of political economy and local business interests in influencing all levels of government decision makers to make policy decisions that are advantageous to their business interests. Sociology has a well-developed literature on this topic, focused on the idea of the Urban Growth Machine hypothesis. I suggest that this perspective be included in this analysis. Dr. Harvey Molotch of New York University should be consulted on this aspect of the analysis. The following is the key reference in this literature: Molotch, H. 1976. "The City as a Growth Machine: Toward a Political Economy of Place." The American Journal of Sociology, Vol. 82, No. 2 pp. 309-332 (Robert Brulle, Drexel University)	Noted - but this section dropped - see Chpt 16
263	48755	14	12	35	0	39	It also depends of the countries institutional model and the degree of autonomy of the local level (see Mickwitz et al, 2009 - Mickwitz P, F Aix, S Beck, and al. (2009), "Climate policy integration, coherence and governance", PEER report (Partnership for European Environmental Research), Helsinki - and 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)	Noted - but this section dropped - see Chpt 16
264	45046	14	12	36	0	39	See also case in Aus - Abel, N., Gorddard, R., Harman, B., Leitch, A., Langridge, J., Ryan, A., and Heyenga, S. (2011). Sea level rise, coastal development and planned retreat: analytical framework, governance principles and an Australian case study. Environmental Science & Policy 14, 279-288 (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Will consider for next draft in Institutional options
265	45775	14	12	36	12	38	Similarly for the private sector as clear and consistent signals from government can promote action by the private sector. (Roger Street, UK Climate Impacts Programme)	Noted - will consider for next draft on Private sector
266	35488	14	12	41	12	42	It would be useful to define what is meant by local stakeholders here. They can be understood to be for example city employees or decision makers in which case they are the experts themselves. In many cases at least the local level adaptation plans are prepared by the actors (stakeholders) themselves and not by outside experts. (Susanna Kankaanpää, Helsinki Region Environmental Services Authority (HSY))	Noted - see new 14.4.5 - is point covered adequately?
267	48909	14	12	41	12	49	Adaptation assessment and planning requires the engagement of diverse actors' - agree entirely - links to earlier comments on co-production of knowledge (Ch2, p6, lines 36/37). Suggest that policy makers are part of the participatory process so that they are convinced of the credibility, legitimacy and salience of the information (Ch 2, p6, line35, Cash et al, 2003). Have observed that, even after such participation, policy makers have difficulty incorporating the qualitative feedback which comes from such exercises. Reason - quantitative info (however assumption riddled) has the appearance of objectivity while qualitative info appears subjective. Underlines the need for processes to validate info for policy making when info comes from different sources (Leon Soste, Department of Primary Industries, Victoria, Australia)	Noted - see new 14.5
268	48756	14	12	45	0	49	Among institutional barriers, one can mention the lack of political support, the overlapping of competences over a same area, the propensity to maintain the status quo (ONERC 2010 - (ONERC, Cities and adapting to climate change, 2010, La documentation française, Paris) and the lack of downscaled climate information. (ALEXIA LESEUR, CDC Climat Research)	Noted - but this section dropped - see Chpt 16

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
269	45776	14	12	45	12	45	...participation in subsequent implementation, monitoring and evaluation of adaptation initiatives.' (Roger Street, UK Climate Impacts Programme)	Noted - but this section dropped - see Chpt 16
270	41750	14	12	45	12	49	In addition to local governments finding that there are institutional barriers, Weichselgartner & Kasperson (2010) identified functional and social barriers hindering collaborative efforts of science, policy, and practice. The results of their study on vulnerability assessments underscore the importance of viewing knowledge production as a systematic and emergent inquiry process, embedded in a collaborative partnership between scientists, policy makers and practitioners for the purpose of generating actionable scientific knowledge. Full reference: Weichselgartner, J. & Kasperson, R.E. (2010): Barriers in the science-policy-practice interface: toward a knowledge-action-system in global environmental change research. Global Environmental Change 20 (2): 266-277. (Juergen Weichselgartner, University of Kiel)	Noted - but this section dropped - see Chpt 16
271	45047	14	12	49	0	0	See also Abel, N., Gorddard, R., Harman, B., Leitch, A., Langridge, J., Ryan, A., and Heyenga, S. (2011). Sea level rise, coastal development and planned retreat: analytical framework, governance principles and an Australian case study. Environmental Science & Policy 14, 279-288 and new papers by Gorddard et al soon out. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	See 264 response
272	45343	14	13	0	0	0	This section is underdeveloped. Although it provides some interesting insights, it consists of loose elements and does not neither provide a full picture of adaptation finance nor of capacity building. I would start by stating that financial resources are needed for adaptation; then write something about how adaptation finance is pledged and what Annex I countries are doing (refer to Copenhagen Accord and Cancun Agreement), and third, mention some of the problems that are faced in the process of adaptation finance. Finally, the section could be finished with some words on the AF and GCF just to point out where the debate is at the moment. (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
273	53024	14	13	1	0	0	This section could consider challenges with sector-focused funding and the implications for integrating adaptation across sectors. (Kristie L. Ebi, IPCC WGII TSU)	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
274	44177	14	13	1	13	26	In section 14.2.3.3, there is no elaboration on the financial resources for adaptation in developed countries. An overview or a summary, based on available literature, would be useful here. (Sirkku Juhola, Aalto University)	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
275	45777	14	13	1	13	26	Role of the private sector and their capacities, including the access to these resources by others? (Roger Street, UK Climate Impacts Programme)	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
276	45344	14	13	3	0	6	What misses here is that climate finance should be balanced between mitigation and adaptation. Although some donor countries are doing their best to do this (usually refer to 'balanced' as 50%-50%), in practice the majority goes to mitigation. (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
277	45345	14	13	3	0	6	start this section by a simple and short line stating that tens of billions and possible hundreds of billions are needed to adapt to climate change, and that a lot of this money is needed in developing countries. (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
278	41402	14	13	3	13	26	It would be good to also mention the Green Climate Fund in this section. (Sven Harmeling, Germanwatch)	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
279	35489	14	13	5	13	5	is this a problem (if adaptation is confused with sustainable development or poverty reduction planning)? In many cases their aims could be quite similar. (Susanna Kankaanpää, Helsinki Region Environmental Services Authority (HSY))	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
280	45346	14	13	9	0	11	The NAPAs also served to identify potential climate change impacts. (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
281	45347	14	13	11	0	13	A couple of things are missing here. For example, initially the available financial resources of the LDC Fund were so small (USD 3 mn per country) that LDCs created 'priority projects' that would cost around 3 million. Second, the LDCF only funds the additional costs of climate change adaptation, the remainder of a project (the development part) needs to be financed by the LDC itself (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
282	45356	14	13	13	0	15	The NAPAs are also heavily disputed. LDCs were given USD 0,3 mn to do a full country analysis of the impacts and effects of climate change, and develop Priority Projects. The formulation was supposed to be a participative and multidisciplinary process etc etc. but that seems impossible in a country where there is no expertise yet. Although I agree with the statement as a whole, I see it less positive and would take the word 'excellent' out. (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
283	45355	14	13	17	0	0	replace recently with 'since the COP15 in Copenhagen' (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
284	45348	14	13	17	0	26	What is missing here is the background of why resources are increasing, and where the money comes from. A link to COP decisions need to be made here, as well as references towards climate finance needing to be 'prioritised' the most vulnerable countries 'including LDCs, SIDS and Africa', as well as 'balanced' between mitigation and adaptation. (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
285	45349	14	13	17	0	26	Include that a proliferation of funds indirectly led to the establishment of the Green Climate Fund, which is supposed to be more innovative than the AF, and which is supposed to channel much of the USD 100 bn climate finance that was pledged by Annex I countries in Copenhagen and reaffirmed in Cancun. (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15

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286	39334	14	13	17	13	26	The term „financial flow“ is vague. The text mentions replenishment of funds, but later versions should also include data on money actually pledged and paid out to projects or programmes. www.climatefundsupdate.org is a useful database. In general, funds do not manage to allocate the funds they have on the books. The mention of Adaptation Fund as particularly important to developing countries is excellent. Yet Cipler, Roberts & Khan, „The Politics of International Adaptation Funding – Justice and Divisions in the Greenhouse, Global Environmental Politics, in press, state that Conference of Parties and Kyoto Protocol Funds have received less than 1 percent of total climate funds. One explanation of that low share is precisely that these funds include the kind of direct access and recipient control which does not attract donors. (Goran Duus-Otterstrom, University of Gothenburg)	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
287	41420	14	13	17	13	26	It would be good to mention that developed countries promised at COP15 in Copenhagen to mobilise USD 100 billion of finance to address climate change in developing countries annually by 2020. (Sven Harmeling, Germanwatch)	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
288	45351	14	13	18	0	0	include 'the world bank's' in front of PPCR (Willem Pieter Pauw, German Development Institute (DIE))	PPCR is not just the World Bank's - it is MDB and UNDP
289	45350	14	13	19	0	21	What is the source of this information? I would be interested to show how much money is pledged and how much is actually spent, to show the gap and point out that adaptation finance is only slowly taking off. (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
290	45352	14	13	21	0	24	You could consider to write that the filling of the AF through a CDM levy is 'innovative' (see COP15 and 16) as these financial means do not depend on donor funding. However, it is also important to say that the AF, despite all its merits and the importance of it as a gamechanger, remains a small fund. (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
291	48757	14	13	22	0	26	The levy is on CDM projects but some voluntary donations also abound the fund. And it could be added that this fund is underused, as only few USD millions have been distributed by now. (ALEXIA LESEUR, CDC Climat Research)	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
292	45353	14	13	23	0	24	to work through a multi-lateral development agency'. I would delete 'development' (UNEP is not a development agency) and include examples between brackets, e.g. (UNDP, UNEP) (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
293	45354	14	13	23	0	24	The direct access modality needs some explanation. It would help to mention the National Implementation Entities (NIEs) and the way these are selected as a country's representative for an adaptation project. (Willem Pieter Pauw, German Development Institute (DIE))	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
294	48758	14	13	25	0	27	The green climate fund should be mentioned (see also chapter 17) (ALEXIA LESEUR, CDC Climat Research)	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
295	40257	14	13	26	0	0	In addition to global climate change funds, specific examples of funds could be cited from countries/regions. For example, Bangladesh has allocated US\$ 300 million from its internal sources (in 3 financial years, July 2009 to June 2012) to tackle the impacts of climate change. This fund is called 'Bangladesh Climate Change Trust Fund' (BCCTF). There is another multidonor fund for Bangladesh managed in Bangladesh known as 'Bangladesh Climate Change Resilience Fund' (BCCRF). These examples could be mentioned along with the following reference in this paragraph. Ref.: 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). 12 pp. (Haseeb Irfanullah, Practical Action)	Noted - but this section dropped - finance etc dealt with in Chpt 17 and implementation restraints in Chpt 15
296	48910	14	13	29	0	0	section 14.2.3.4 - suggest, in addition to availability of information, adaptation is affected by (un)certainly of the information. Links also to work in Ch2 on understanding the decision making processes of adaptors (Leon Soste, Department of Primary Industries, Victoria, Australia)	This material is now in Chpt 15
297	45778	14	13	31	13	33	I would suggest that a major challenge is related to the proliferation of available decision support tools and the lack of independent guidance on which to use, when, how and why, as well as what the output actually mean considering the assumptions and limitations of the tools. (Roger Street, UK Climate Impacts Programme)	Agree - but section dropped
298	44840	14	13	32	13	44	It seems odd to put a discussion on the Nairobi Workplan in the first paragraph of this section. The NWP can be mentioned, but why at first? (Joel Smith, Stratus Consulting Inc.)	I guess that we had too much of a developing country view point here - thanks - but this section has been dropped.
299	45779	14	13	35	13	35	I would hope that the observations systems also includes those related to environmental, socio-economics, impacts, vulnerabilities and adaptation (i.e. in addition to climate) (Roger Street, UK Climate Impacts Programme)	Agree - but section dropped
300	43235	14	13	38	13	43	Please ensure the proper use of parenthesis here (Muhammad Zia ur Rahman Hashmi, Global Change Impact Studies Centre)	Noted
301	47924	14	13	41	0	0	13.41: incomplete reference : "EU xxx" (Jenny Frankel-Reed, USAID)	Noted - the final document was still pending when FOD written
302	45780	14	13	41	13	41	Also include PROVIA under global. (Roger Street, UK Climate Impacts Programme)	Noted
303	53025	14	13	45	13	47	Guidance documents are another example. (Kristie L. Ebi, IPCC WGII TSU)	Agree - but section dropped
304	53026	14	13	48	13	49	Something went wrong with this sentence. (Kristie L. Ebi, IPCC WGII TSU)	Noted
305	37699	14	13	50	0	0	Comment 1: I think this section needs an example of quantifying/providing the required information as well as on the cost of inaction. Add(?): Sandia National Laboratories undertook a study to quantify how climate change affected the adaption and economic risk of each of the individual, but interconnected, U.S. states, for 70 industries and the labor force through 2050 (Backus et. al 2012). This work used an insurance metaphor to establish how uncertainty is a tangible part of the risk and adaptation decisions. Parallel work considered the quantified cost and benefits of adaptation measures that provide various forms of resilience (Vugrin et al., 2010). An extension of Vugrin's work added uncertainty relevant to assessing resilience in the face of climate change impacts. (Vugrin and Turnquist, 2012). (George Backus, Sandia National Laboratories)	Thank you - a useful source - but section was dropped

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306	41748	14	13	52	13	53	Weichselgartner & Kasperson (2010) identified additional challenges, e.g., science proposes methods and approaches that may not be accurate in the absence of detailed and accurate input data or feasible from a practitioner point of view because of budget constraints for data collection. Full reference: Weichselgartner, J. & Kasperson, R.E. (2010): Barriers in the science-policy-practice interface: toward a knowledge-action-system in global environmental change research. Global Environmental Change 20 (2): 266-277. (Juergen Weichselgartner, University of Kiel)	Thank you - a useful source - but section was dropped
307	48759	14	13	52	14	6	Maybe the new initiative "DRIAS" from the French environment ministry could be mentioned, as it provides downscaled climate simulations (with 24 indicators and parameters) at the scale of 8 km to local decision makers (see http://www.developpement-durable.gouv.fr/Ouverture-du-portail-Drias-les.html) (ALEXIA LESEUR, CDC Climat Research)	Thank you - a useful source - but section was dropped
308	43236	14	13	54	0	0	insert 'to' after 'access' to make the sentence meaningful (Muhammad Zia ur Rahman Hashmi, Global Change Impact Studies Centre)	Noted - but section dropped
309	45781	14	13	54	13	54	Is precision what is necessary or is it also relevant and robust estimate of changes? (Roger Street, UK Climate Impacts Programme)	Noted - but section dropped
310	53027	14	14	1	14	6	Another challenge is some countries charging for access to their meteorological data. (Kristie L. Ebi, IPCC WGII TSU)	Agree - but section dropped
311	48154	14	14	1	14	26	This section should also make reference to international flows of money delivered for adaptation via bilateral channels see e.g. http://climatepolicyinitiative.org/publication/the-landscape-of-climate-finance/ and http://www.unep.org/pdf/Mapping_report_final.pdf (Jochen Harnisch, KfW)	Presumably meant to refer to finance section - but section dropped
312	45782	14	14	5	14	6	Working closely with end users to assist them in interpreting is a limited perspective of what is required. Engagement of stakeholders (users and providers) should be defined much broader in terms of developing and delivering information and knowledge required to inform adaptation (Roger Street, UK Climate Impacts Programme)	Agree - but section dropped
313	36283	14	14	9	0	0	The chapter 14 is logical and coherent, the same this structured good. But it is important include in the chapter the important that has the ethnocompetitiveness in the adaptive dynamics of the social actors in the rural territories. This concept determining to impel the adaptive capacities of the social actor, in Special, farmers, peasantry, Indigenous. The revision of the following References is recommended to him to the coordinators and authors. (Diosey Ramon Lugo Morin, Universidad Europea de Energia y Medio Ambiente)	Thank you - Please review new structure
314	46697	14	14	9	0	0	Section 14.3: On top of the needs/need areas mentioned - another key need is to build "national level forums for dialogue" on climate change adaptation. The global Conference on Community based adaptation (CBAs) are happening but in the countries they require specific forums for creating a dialogue for adaptive capacity within the country. This may not necessarily just for CBAs but in might take different shape in different countries. In some country it might take place even within the DRR forums, or Monsoon Forums or Winter dialogues etc. The chapter should have some mentioning of such platforms for adaptation needs discussions and dialogue on a routine manner at country levels. (Atiq Kainan Ahmed, Asian Disaster Preparedness Center (ADPC))	Please check if this is sufficiently covered in new structure - esp 14.4.3, 14.3.5, 14.3.6
315	54606	14	14	9	0	0	Section 14.3. A synthetic figure or table summarizing the section will be very useful for readers to know the key findings in a snapshot. (Monalisa Chatterjee, IPCC WGII TSU)	Noted and Table included
316	53028	14	14	11	14	12	Monitoring and evaluation also are important. (Kristie L. Ebi, IPCC WGII TSU)	Noted but major redraft dropped this text
317	45783	14	14	12	14	12	'...and then implementing, monitoring and evaluating the chosen actions.' Also add monitoring and evaluation on line 21 in terms of mobilising that capacity. (Roger Street, UK Climate Impacts Programme)	Noted but major redraft dropped this text
318	48481	14	14	12	14	12	"...options that promote adaptive capacity...". Only adaptive capacity? Couldn't selected options also reduce, for example, sensitivity rather than be limited only to adaptive capacity (in its context as one component of vulnerability)? (David Hole, Conservation International)	Noted but major redraft dropped this text
319	53029	14	14	14	14	14	The issue of residual impacts could be included. (Kristie L. Ebi, IPCC WGII TSU)	Noted but major redraft dropped this text - also not certain how this applies to a "needs" section
320	41403	14	14	20	15	2	As this section talks about adaptation needs it would also be good to mention that there is a strong need to examine (negative) social implications of local adaptation measures. (Sven Harmeling, Germanwatch)	Would be good to have an example of what is meant? -
321	45784	14	14	22	14	22	There is also a need for adequate information on the purpose of the adaptation (adds transparency to the decisions). (Roger Street, UK Climate Impacts Programme)	Noted but major redraft dropped this text
322	41995	14	14	23	0	0	This sentence is circular in its logic and doesn't add much. (Nathan L. Engle, 2011-2012 AAAS Science and Technology Policy Fellow)	Noted but major redraft dropped this text
323	45048	14	14	26	0	34	See also Wolf 2012, and Soares et al 2012 op.cit.s (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Noted - will seek to incorporate citations in next draft
324	40900	14	14	26	14	34	Literature as well as guiding documents such as the Hyogo Framework for Action (www.unisdr.org/eng/hfa/hfa.htm) in DRR/M increasingly discusses fusing risk readiness responses with training, engagement in planning and implementation by First Responders. (ISDR, Comprehensive Disaster Management Strategy and Programme Framework, 2007-2012; Wyman, O. 2009. Innovation in Country Risk Management. OECD, Swiss RE available online at http://www.oecd.org/unitedstates/42226946.pdf .) (Lynn Wilson, SeaTrust Institute)	Noted - references not included in this draft, but will be considered for later drafts
325	53030	14	14	26	14	34	Adaptive management should be discussed. (Kristie L. Ebi, IPCC WGII TSU)	Is "adaptive management" used to "assess risks". We can't discuss everything everywhere.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
326	44790	14	14	38	0	0	The sentence: "Institutions with responsibility for progressing adaptation agendas will usually also have responsibilities for other non-climate related agendas" - I'm not sure that is always true. One issue in developing countries at least is that climate is the purview of ministries of meteorology or environment and development is the purview of ministries of planning. See Commission on Climate Change and Development [Sweden]. 2009. Closing the Gaps: Disaster Risk Reduction and Adaptation to Climate Change in Developing Countries. Report. Stockholm: Commission on Climate Change and Development, Ministry of Foreign Affairs. Also: Agrawala, S and F Crick. 2009. "Climate Change and Development: Time to Adapt." In E Palosuo, Ed. 2009. Rethinking Development in a Carbon Constrained World. Finland: Ministry for Foreign Affairs. Also: Hardee, K and C Mutunga. 2009. "Strengthening the Link Between Climate Change Adaptation and National Development Plans: Lessons from the Case of Population in National Adaptation Programmes of Action (NAPAs)." Mitigation and Adaptation Strategies for Global Change. 15(2), 113-126 (already in the references for Chapter 14). (Karen Hardee, Futures Group)	Point noted - author retained sentence as sentence cites literature and includes word 'usually'.
327	41115	14	14	38	14	45	This section is a little confusing to read. When you talk about the combination of approaches (line 40), do you mean specifically the risk-hazard and political-economy approaches? In line 45 regarding the 'consideration of risks and socio-economic systems' are you still talking about the risk-hazard and political economy approaches? If so, it would be easier to understand if the same terminology is used. (Colette Mortreux, University of Melbourne)	Noted and agree - Extensive redraft - please check new section 14.2
328	53031	14	14	42	14	43	Iterative management could be discussed here. (Kristie L. Ebi, IPCC WGII TSU)	Noted - but no longer have section dealing explicitly with 'Identifying' adaptation needs. The current focus is classifying social needs.
329	45049	14	14	51	0	52	Note Hinkel 2011 critique of indicators. Validation not just a 'challenge', but profoundly non-feasible in many cases. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Noted - Point and citation need to be included in new 14.6.3 in next draft
330	45785	14	14	51	14	52	This level of aggregation can also make it difficult to deal with conflicts and tradeoffs, particularly beyond the boundaries considered. (Roger Street, UK Climate Impacts Programme)	Noted but major redraft dropped this text
331	48299	14	15	0	0	0	Please provide examples of adaptation interventions across the geographies (Malini Nair, Indian Institute of Science)	Noted - but issues of space
332	48300	14	15	0	0	0	Please write about the lack of coordination between institutions in developing countries and how this may hamper adaptation planning (Malini Nair, Indian Institute of Science)	This is essentially- Chpt 16 a barrier issue
333	48301	14	15	0	0	0	please cut down on the theory in the whole chapter and provide more examples (Malini Nair, Indian Institute of Science)	Point noted, but as introductory section the chpt needs to set framework
334	48911	14	15	5	0	0	Excellent section - links to earlier comment (p12, lines 26/27) that institutional actors may need some guidance on how to achieve the flexibility, mainstreaming and co-ordination proposed here. Genuinely challenging arena. Links also to - 'new institutions may be needed' (p16, lines 47/48) (Leon Soste, Department of Primary Industries, Victoria, Australia)	Will check cross linking in revised text
335	45786	14	15	9	15	9	protocols are also required for monitoring and evaluation (Roger Street, UK Climate Impacts Programme)	Noted - but not included by author as detracted from the main point
336	40258	14	15	10	15	13	Bangladesh Climate Change Strategy and Action Plan 2009' (BCCSAP 2009), 'Bangladesh Climate Change Trust Act 2010' and 'Bangladesh Climate Change Trust Fund' (BCCTF) are good examples of strategies, legal frameworks and resource allocation mentioned in this sentence. Following references could be cited at the end of this sentence. Ref. 1: MoEF (Ministry of Environment and Forests). 2009. Bangladesh Climate Change Strategy and Action Plan 2009. Ministry of Environment and Forest, Government of the People's Republic of Bangladesh, Dhaka, Bangladesh, xviii+76 pp. Ref. 2: See above (Khan et al.). (Haseeb Irfanullah, Practical Action)	Agree on the relevance of the BCCTF. Will discuss with other chpts best positioning of appropriate text on it.
337	53032	14	15	11	15	13	Other relevant sources are SREX and America's Climate Choices Adapting Panel report. (Kristie L. Ebi, IPCC WGII TSU)	Noted
338	43832	14	15	21	0	0	"adopting a climate lens in ongoing activities" This is important as certainly within biodiversity many of the climate change adaptation principles (e.g. Smithers et al., 2008; Mawdesley are part of ongoing conservation (best) practice and therefore sorting out what is explicitly required for climate change is hard. (Pam Berry, Oxford)	Noted but major redraft dropped this text
339	50848	14	15	21	15	21	It would be preferable here to indicate more specifically what is meant by "typically need to be addressed," also ensuring a formulation that would avoid interpretations of being policy prescriptive. That is, it may be effective to indicate more specifically the benefits of addressing these design challenges. (Katharine Mach, IPCC WGII TSU)	Noted but major redraft dropped this text
340	53033	14	15	22	15	22	Also national, regional, and local coordination within and across sectors. There also needs to be commitment. (Kristie L. Ebi, IPCC WGII TSU)	Noted
341	54605	14	15	23	15	27	The author team should add relevant references for these sentences. (Monalisa Chatterjee, IPCC WGII TSU)	Refs are same as in previous sentence - text now redrafted and is more detailed - new 14.2.1
342	53034	14	15	26	15	27	Monitoring and evaluation also is important. (Kristie L. Ebi, IPCC WGII TSU)	Noted
343	40297	14	15	27	15	27	Despite uncertainty it is also important to stress that a 'wait and see approach' is not encouraged, and this has been emphasised in national scale studies (e.g. Murphy, C. et al (2011) Against a 'wait and see' approach in adapting to climate change, Irish Geography 44(1), 81-95. (John Sweeney, National University of Ireland Maynooth)	Chpt does not endorse 'wait & see'.
344	50849	14	15	29	15	29	It would be beneficial to indicate more specifically what is meant by "would need to," also avoiding a potentially policy prescriptive formulation. For example, the author team could indicate more precisely the benefits (still at the level of generalized conclusions) of mainstreaming adaptation. (Katharine Mach, IPCC WGII TSU)	Noted but major redraft dropped this text - but see end of new 14.2.1
345	45050	14	15	44	0	0	Note also Abel et al 2011 op cit. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Noted

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
346	52770	14	15	45	15	46	On the importance of fostering institutions for coordination, communication etc, refer also to Pittcock, J. (2011). National climate change policies and sustainable water management: conflicts and synergies. Ecology and Society 16(2): 25. [online] URL: http://www.ecologyandsociety.org/vol16/iss2/art25/ (Tim Rayner, University of East Anglia, Tyndall Centre for Climate Change Research)	Noted but major redraft dropped this text
347	40901	14	15	45	15	49	Consider adding a section on creating incentives to accomplish these goals that addresses other, non-climate change mandates to foster broader involvement, collaboration and action within and across sectors. (Lynn Wilson, SeaTrust Institute)	Whole section shortened rather than expanded - but see end of new 14.2.1
348	43416	14	16	4	0	0	Moreover, the importance of including capacity building for countries climate change authorities /agencies, for their specific role as National CC 'adviser' to the full government, should be emphasized as critical issue for governments to address in order to achieve successful and sustainable climate change adaptation. Too many climate change projects are not achieving their aims, and/or are being implemented at too slow a pace due to insufficient capacity of the climate change implementing agencies. [This is better addressed in Chapter 15, perhaps.] (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	This is a point repeated many times in many publications and we are trying to go beyond it to what can be done. Please check the treatment of 'capacity' through the new section 14.2
349	47247	14	16	7	16	54	This section on social needs is important and should be highlighted in whatever relevant way in the SPM. However, the current draft seems to have a focus on increasing adaptive capacity, when the focus should be on the whole spectrum of adaptation. This focus on adaptive capacity weakens the discussion on Social needs. (Juan Hoffmaister, Third World Network)	I am not certain how social needs are separated from adaptive capacity
350	41163	14	16	9	0	0	Section 14.3.1.2 pg 16 line 9 – it is confusing to start this section speaking about barriers to implementation. I suggest you remove these references as this issue is dealt with elsewhere, and focus on the factors that characterize the identification of social needs (consistent with that of other subsections). (Susan Evans, WWF-Canada)	Agree. Text redrafted
351	46070	14	16	9	16	54	Somehow this seems to have been treated on page 6, although less extensively (Luis E. Garcia, World Bank)	Noted - major redraft to reduce overlap
352	39176	14	16	12	16	16	Another interesting reference which also highlights the conflicts between adaptation and resilience that would be suitable here is: Nelson, DR. 2010 Adaptation and resilience: responding to a changing climate. WIREs Climate Change. DOI: 10.1002/wcc.91 (Christopher Reyer, Potsdam Institute for Climate Impact Research)	Citation accessed but not included
353	45787	14	16	12	16	16	Also need to include building adaptive capacity as part of adaptation (Roger Street, UK Climate Impacts Programme)	Agree - See treatment of capacity throughout new sect 14.2
354	45788	14	16	25	16	25	Also needs to be linked to the viability of forestry and fisheries (Roger Street, UK Climate Impacts Programme)	Agree - needs to be fixed in next draft
355	48912	14	16	31	16	34	social networks shape perceptions' - interesting - almost suggests that network gatekeepers might influence risk perception, willingness to adapt and thereby community vulnerability - which re-inforces the need for regional leadership training (p22, lines 42/52) (Leon Soste, Department of Primary Industries, Victoria, Australia)	Point noted - not sure if we have properly capture the point in redraft though.
356	45789	14	16	37	16	45	Need to recognise the links between assessments undertaken at the local, national and regional level - one feeding into and building on the others. (Roger Street, UK Climate Impacts Programme)	This is now more relevant to "assessment" section - new 14.5
357	40902	14	16	37	16	54	Suggest adding community-generated assessments (processes and outputs) to incorporate into appropriate adaptation choices. This might partially address the powerlessness mentioned in In 47-48. (Lynn Wilson, SeaTrust Institute)	This is now more relevant to "assessment" section - new 14.5
358	35828	14	16	47	0	54	The analysis of the psychological and social psychological responses to climate change has been analyzed in a book length treatment by Dr. Kari Norgaard at the University of Oregon. I have provided this reference below. I highly recommend that she be consulted in the updating of this section so that it reflects the latest peer reviewed literature on this topic. Norgaard, K. 2012. Living in Denial: Climate Change, Emotions, and Everyday Life MIT Press. (Robert Brulle, Drexel University)	Text dropped, but source and author noted and will be considered in future drafts
359	35829	14	16	47	0	54	Also see: World Bank, 2010. Overcoming Behavioral and Institutional Inertia, Chapter 8, pp. 321- 347 in World Development Report 2010: Development in a Changing Climate. Washington DC: World Bank (Robert Brulle, Drexel University)	Text dropped, but source and author noted and will be considered in future drafts
360	40259	14	16	47	16	47	"People oftenas climate change": At the end of this sentence following reference (Irfanullah and Motaleb, 2011) could be cited. In this research paper, the authors have shown that despite having strong indigenous knowledge to forecast weather and to predict hazards, indigenous communities may find themselves not confident enough to forecast/predict changing patterns of extreme events. 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)	Interesting point and reference noted - but text dropped
361	53035	14	16	47	16	47	"significant threats such as climate change" should be rephrased to capture the nuances of the current and future risks of climate change. (Kristie L. Ebi, IPCC WGII TSU)	Noted
362	50850	14	16	48	16	48	To avoid potential interpretations of policy prescriptiveness, it may be beneficial to indicate more specifically the benefits of new institutions and why they are "needed." (Katharine Mach, IPCC WGII TSU)	Text dropped
363	53036	14	16	50	16	51	This is policy prescriptive and should be reworded. (Kristie L. Ebi, IPCC WGII TSU)	Noted - text dropped
364	53037	14	16	51	16	51	There has not been attribution of disasters to climate change. Please correct. (Kristie L. Ebi, IPCC WGII TSU)	Do not see this point in text - also I dispute the statement about attribution. Attribution is rare but a couple of examples of published claims of attribution exist.
365	35490	14	17	0	0	0	Ecosystem services provide all the basic needs of humans and ecosystem services and environmental needs are therefore one of the core areas when adaptation needs are considered. The length of this chapter should perhaps reflect the importance of its subject. (Susanna Kankaanpää, Helsinki Region Environmental Services Authority (HSY))	Text redrafted and restructured - attempted to increase prominence
366	43834	14	17	3	0	0	Highlights the needs to bring together ecosystem services and biodiversity in an SES context Anton, C., Young, J., Harrison, P.A., Musche, M., Bela, G., Feld, C.K., Harrington, R., Haslett, J.R., Pataki, G., Rounsevell, M.D.A., Skourtos, M., Sousa, J.P., Sykes, M.T., Tinch, R., Vandewalle, M., Watt, A & Settele, J. (2010). Incorporating the ecosystem service approach into biodiversity conservation: Gaps in knowledge and future research needs. Biodiversity and Conservation, DOI 10.1007/s10531-010-9853-6. (Pam Berry, Oxford)	Source noted, but not used.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
367	50851	14	17	3	0	0	Section 14.3.1.3. The author team could consider the assessment in chapters 4-6, for example, and provide cross-references in introducing observed and projected impacts affecting ecosystem services. (Katharine Mach, IPCC WGII TSU)	Noted
368	53038	14	17	3	0	0	Why is there a section on ecosystems and not on other sectors? There should be coverage of all sectors, including water, coastal zones, agriculture, and health. (Kristie L. Ebi, IPCC WGII TSU)	Text restructured partly in response to this and similar comments
369	41164	14	17	5	0	0	Section 14.3.1.3 pg 17 line5 – this section has not been assessed to the same degree as its companion sub-sections. It reads as though this is an assessment of information gaps vs. an assessment of adaptation needs as defined in section 14.1. Addressing needs such as decreasing non-climate pressures, increasing protection, re-building corridors, and restoration should also be presented in this section. In addition, it will be important to also understand abiotic processes and interactions as physical and chemical components of ecosystems will also be impacted from climate change and are major drivers in maintaining ecosystem function. (Susan Evans, WWF-Canada)	Not enough space to deal with this here - it is for earlier chapters
370	36615	14	17	5	17	6	It is possible to support by examples the impact of climate change on biotic resources? (Girmaw Bogale, United Nations Economic Commission for Africa)	Not enough space to deal with this here - it is for earlier chapters
371	41165	14	17	6	17	8	Section 14.3.1.3 pg 17 line 6-8 – why is the qualifier “essential” used here? Inclusion of this word superficially narrows the discussion presented here. (Susan Evans, WWF-Canada)	It is the terminology used often in this area - see MEA
372	53039	14	17	8	17	9	This is policy prescriptive and should be reworded. (Kristie L. Ebi, IPCC WGII TSU)	Noted, but text dropped
373	39177	14	17	8	17	12	“...improved...ecosystem changes...” I generally agree but this is also an ambiguous statement since there are also a huge number of studies on ecosystem change available (e.g. see chapter 4) and I think it would be more appropriate to refer to “ecosystem services changes” (Christopher Reyer, Potsdam Institute for Climate Impact Research)	Noted, but text dropped
374	43417	14	17	12	0	0	[Example of relevant HKH specific issue and reference: The threats to biodiversity arising from climate change are very acute in the Eastern Himalayas as the region is rich in threatened and endemic species with restricted distributions. Fragmentation and loss of habitat directly impinge on the survival of species, especially those that are endemic to the region. Species in high altitude areas – especially in the transition zone between sub-alpine and alpine – are more vulnerable to climate change. In addition, the region’s wetlands are being affected by the erratic weather observed in many parts of the region Tse-ring K; Sharma, E; Chettri, N; Shrestha, A (eds) (2010) Climate change vulnerability of mountain ecosystems in the Eastern Himalayas; Climate change impact an vulnerability in the Eastern Himalayas – Synthesis report. Kathmandu: ICIMOD. http://books.icimod.org/uploads/tmp/icimod-climate_change_vulnerability_of_mountain_ecosystems_in_the_eastern_himalayas.pdf (David Molden, International Centre for Integrated Mountain Development (ICIMOD))	Noted but text dropped
375	38890	14	17	12	17	0	PLEASE ADD THE FOLLOWING: It is also of paramount importance to identify all drivers of ecosystem changes, including direct and indirect drivers (Mohamed Tawfic Ahmed, Suez Canal University)	Noted, but text dropped.
376	48156	14	17	14	17	54	In my view quantitative results and approaches from Parry et al. 2009 should also be presented in this section. (Jochen Harnisch, KfW)	Included - was cited as IIED 2009
377	39056	14	17	15	0	0	14.3.1.4 – The focus of this section is on global financial capacity to pay for adaptation with particular reference to the role of funding transfers from developed to developing countries via development assistance. The capacity to finance adaptation is also a significant challenge at a national and subnational level in both developed and developing countries. As noted in section 14.3.1.1 this needs to be supported by strong institutional systems to appropriately finance adaptation in national contexts. (Elissa Waters, University of Melbourne)	Agree. Much of this text has been redrafted. Please check if point is sufficiently covered.
378	47248	14	17	15	17	54	The assumed potential of the private sectors and of financial instruments is not well-supported and this sections needs to be carefully reviewed. Some literature seems to indicate that the role of private sector in adaptation might not be as simple as framed here. See Atteridge, A. 2011. Will Private Finance Support Climate Change Adaptation in Developing Countries? Historical Investment Patterns as a Window on Future Private Climate Finance. SEI Working Paper 2011-5. (Juan Hoffmaister, Third World Network)	This text has been dropped - to be covered in Chpt 17
379	50852	14	17	17	17	17	In the parenthetical cross-references provided on this line, it would be helpful to specify that the 1st references refer to chapter 14 (presumably). For the reference to chapter 17, it would be preferable to cross-reference the specific relevant chapter sections (as well as table). (Katharine Mach, IPCC WGII TSU)	This text has been dropped - to be covered in Chpt 17
380	43835	14	17	17	17	28	A critique of some of these figures is provided in Parry, M., Arnell, N., Berry, P., Dodman, D., Fankhauser, S., Hope, C., Kovats, S., Nicholls, N., Satterthwaite, D., Tiffin, R. And Wheeler, T. (2009). Assessing the costs of adaptation to climate change: A critique of the UNFCCC estimates. IIED, London, pp111. (Pam Berry, Oxford)	Included - was cited as IIED 2009
381	48155	14	17	17	17	54	The numbers quoted here for financing needs will be of highest policy relevance in coming years. Currently the chapter provides virtually no information on the different assumption or approaches underlying each of these estimates. I would suggest to add a table giving financing needs with decent sectoral and regional differentiation and some information on the underlying assumption and approaches or models applied. (Jochen Harnisch, KfW)	This text has been dropped - to be covered in Chpt 17
382	45790	14	17	18	17	19	Need to be clear as to at what scales and under what assumptions this high benefit cost ratio resulted. (Roger Street, UK Climate Impacts Programme)	This text has been dropped - to be covered in Chpt 17
383	45357	14	17	23	0	25	And these cost estimates are also heavily disputed. Some sectors are left out, and underlying assumption and the adaptation measures for which costs are calculated are mad. This might lead to a severe underestimate. Parry et al (2009) for example state that including ecosystem protection would cost another USD 65-300 bn per annum (Willem Pieter Pauw, German Development Institute (DIE))	This text has been dropped - to be covered in Chpt 17

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
384	40930	14	17	26	17	28	It is unclear what it means to say "the costs of adaptation are the same order of magnitude as those for mitigation" unless specifying how much mitigation. Most of the studies referenced in this paragraph use a business-as-usual climate change baseline, implying mitigation costs are zero. This sentence needs elaboration to be clear. (Frances Moore, Stanford University)	Noted - This point is dealt with in 14.4.2 in SOD
385	46071	14	17	30	17	30	Not only that but gives erroneous impression because there will always be a residual risk involved (Luis E. Garcia, World Bank)	This text has been dropped - to be covered in Chpt 17
386	45791	14	17	30	17	32	Also need to include in this some indication of the level of risk that was considered when ensuring sustainability. (Roger Street, UK Climate Impacts Programme)	This text has been dropped - to be covered in Chpt 17
387	41166	14	17	34	17	48	Section 14.3.1.4 pg 17 line 34-48 – this appears to be describing options or solutions. I would remove from this section to be consistent with treatment of earlier subsections (Susan Evans, WWF-Canada)	This text has been dropped - to be covered in Chpt 17
388	45358	14	17	40	0	41	I do not understand what is meant with the statement on the private sector. Do the authors mean to state that a lot of adaptation will be financed by the private sector and pass by unnoticed? (Willem Pieter Pauw, German Development Institute (DIE))	Yes - if organisations insist on reporting only government and Int Org flows - but this text has been dropped - to be covered in Chpt 17
389	45359	14	17	41	0	45	This explains the former sentence. One remark: insurance does not bring new financial resource for adaptation. It does not include investments. It is merely a redistribution of financial resources. (Willem Pieter Pauw, German Development Institute (DIE))	Fully agree - please look at Chpt 15 section on insurance
390	41421	14	17	50	17	54	International donors also have a critical role to play in terms of budget screening. (Sven Harmeling, Germanwatch)	This text has been dropped - to be covered in Chpt 17
391	45360	14	17	52	0	0	It is not undetermined. The financial resources should be 'balanced' between mitigation and adaptation. However, what 'balanced' means is undetermined. (Willem Pieter Pauw, German Development Institute (DIE))	Noted
392	40903	14	17	54	0	0	Add information from Durban Agreement (2011) and discussions at RIO+20 (2012) (Lynn Wilson, SeaTrust Institute)	This text has been dropped - to be covered in Chpt 17
393	40260	14	17	54	17	54	In addition to OECD (2011), above mentioned reference (Khan, Huq and Shamsuddoha) on BCCTF/BCCRF can be cited here (see comment on page 13). (Haseeb Irfanullah, Practical Action)	This text has been dropped - to be covered in Chpt 17
394	39335	14	18	2	18	3	I'm not convinced that it is accurate to say that future payments for climate change will „equal or dwarf“ current development expenditure. First, the cost specifically of adaptation will depend on the degree of mitigation undertaken (and, of course, the target of adaptation adopted), so this is in several ways a moving target. Second, the World Bank (2010) The Economics of Climate Change (Washington DC) estimate the global cost of adapting to climate change to an average of USD 70 billion and USD 100 billion a year between 2010 and 2050 (calculated at 2005 prices). This is a considerable sum, but USD 100 billion is still „only“ 80 percent of yearly Official Development Assistance in 2008. It therefore needs to be clarified how this could be counted as „dwarfing“ current development expenditure. (Goran Duus-Otterstrom, University of Gothenburg)	Noted - This point is dealt with in 14.4.2 in SOD
395	45168	14	18	2	18	22	The report would be strengthened here if it indicated mechanisms have been proposed to allow a wide variety of agents, from local communities to private technology providers and project developers, to secure "credits" for activities that reduce climate vulnerabilities. Thus there are a variety of additional roles for the private sector (technology, finance) that could be incentivized. See: Schultz, K., (2012), "Financing climate adaptation with a credit mechanism: initial considerations", Climate Policy Vol. 12, Issue 2, 2012, pages 187-197. http://www.tandfonline.com/doi/abs/10.1080/14693062.2011.605563 Baca, Matthew, Call for a Pilot Program for Market-Based Adaptation Funding (September 3, 2010). New York University Journal of International Law and Politics (JILP), Vol. 42, p. 1337, 2010. Available at SSRN: http://ssrn.com/abstract=1685027 Miles, K. (2011): "Investing in Adaptation: Mobilising Private Finance for Adaptation in Developing States," 2 Carbon & Climate Law Review, p. 190-208. Persson, A. (2011): "Institutionalising climate adaptation finance under the UNFCCC and beyond: Could an adaptation 'market' emerge?", Stockholm Environment Institute, Working Paper - 2011. Butzengeiger-Geyer, S., Kohler, M. and Michawlowa, A. (2011): "Driving Meaningful Adaptation Action through an Adaptation Market Mechanism," FNI Climate Policy Perspectives 3, December, 2011. Forrister, D. (2012): "Eyes turn to adaptation finance", Global Carbon, Spring 2012, p. 20-21. Schultz, K., Mader, R., Adler, L., Tapley, B. (2012): "Using a Market Mechanism to Prioritize Climate Adaptation and Enhance Adaptive Capacity", poster session 3, no. 36, Planet Under Pressure Conference, London, 26-29 March 2012, abstract available at: http://elsevier.conference-services.net/reports/template/onetextabstract.xml?xsl=template/onetextabstract.xsl&conferenceID=2808&abstractID=562145 (Karl Schultz, The Higher Ground Foundation)	Noted but this text has been dropped - to be covered in Chpt 17
396	45792	14	18	3	18	3	There were others also identified as most vulnerable (e.g., elderly and women as identified earlier in the text) (Roger Street, UK Climate Impacts Programme)	This text has been dropped - to be covered in Chpt 17
397	45361	14	18	10	0	11	This is an open door, but one that doesn't read well. The same is true for the next sentence: 'these issues are critical in capacity needs' (Willem Pieter Pauw, German Development Institute (DIE))	This text has been dropped - to be covered in Chpt 17
398	52771	14	18	10	0	17	Not clear to me why this discussion is included here and not in earlier discussion(s) of more general obstacles to action. (Tim Rayner, University of East Anglia, Tyndall Centre for Climate Change Research)	This text has been dropped - to be covered in Chpt 17
399	41116	14	18	10	18	17	This paragraph is about adaptive capacity more broadly. Perhaps it should be placed earlier in the chapter (section 14.2.1.2) rather than in the financial needs section. (Colette Mortreux, University of Melbourne)	This text has been dropped - to be covered in Chpt 17
400	50853	14	18	14	18	15	It would be helpful to specify the timeframe over which this example took place--at what time did the city begin pursuing adaptation, for example. (Katharine Mach, IPCC WGII TSU)	This text has been dropped - to be covered in Chpt 17
401	41404	14	18	19	18	22	Also add that institutional memory needs to be build up. (Sven Harmeling, Germanwatch)	This text has been dropped - to be covered in Chpt 17
402	40904	14	18	21	0	0	Add - 3) enabling governments to link regional and global policy with communities to engage public and private funding for capacity development (Lynn Wilson, SeaTrust Institute)	This text has been dropped - to be covered in Chpt 17

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
403	44791	14	18	25	0	0	The discussion of adaptation in this chapter focuses on natural systems but not on human systems. How much will social structures need to change as part of adaptation? This seems particularly salient at the community level - who gets to decide what adaptation means for communities? The social sectors, other than health, are ignored in adaptation planning. Is that reasonable? Part of that is likely due to the definitions of development vs. climate change and the notion of additoinality in combining climate change and development activities. (Karen Hardee, Futures Group)	Disagree that the chapter 'focuses on natural systems but not human systems'. Is this comment in the right place?
404	45492	14	18	25	0	0	We suggest referring to the following publication for an overview of climate change adaptation interventions in highly food-insecure and marginalised areas. These examples provide information about different adaptation options: "WFP (2011) Building Resilience: Bridging Food Security, Climate Change Adaptation and Disaster Risk Reduction: An Overview of Workshop Case Studies," World Food Programme Office for Climate Change and Disaster Risk Reduction, Rome." (Carlo Scaramella, World Food Programme)	Citation accessed but not included in redraft
405	48760	14	18	25	26	19	This section is interesting but I would add the issue of prioritisation of possible adaptation options (as we can't do everything) and the issue of uncertainty that could be developed here. (ALEXIA LESEUR, CDC Climat Research)	Have not restructured to do this. Many prioritisation issues are covered under the assessment sections and in chpt 15.
406	41167	14	18	27	0	0	Section 14.3.2 pg 18 line 27 – An additional 'broad' adaptation strategy would include: reduction of non-climate stressors . ADDITIONAL REFERENCES Hansen L., J. Hoffman, C. Drews, E. Mielbrecht. 2010. Designing Climate-Smart Conservation: Guidance and Case Studies. Conservation Biology. 24(1):63-69. Hansen, L.J., J.L. Biringer and J.R. Hoffmann, 2003: Buying Time: A User's Manual for Building Resistance and Resilience to Climate Change in Natural Systems. WWF Climate Change Program, Berlin, 246 pp. Joshua J Lawler, Timothy H Tear, Chris Pyke, M Rebecca Shaw, Patrick Gonzalez, Peter Kareiva, Lara Hansen, Lee Hannah, Kirk Klausmeyer, Allison Aldous, Craig Bienz, and Sam Pearsall. 2010. Resource management in a changing and uncertain climate. Frontiers in Ecology and the Environment 8: 35–43 (Susan Evans, WWF-Canada)	Do not see relevance of thses references at this point.
407	45362	14	18	27	0	0	Adaptedness? (Willem Pieter Pauw, German Development Institute (DIE))	Word(?) no longer used
408	46072	14	18	27	18	34	This seems to have been said before, same as what is in lines 50-53 (Luis E. Garcia, World Bank)	Noted and redrafted
409	45793	14	18	29	18	31	Also need to consider those adaptation options that build adaptive capacity. Similarly within lines 38 -42 is not building adaptive capacity part (and integral) to options for adapting to climate change? (Roger Street, UK Climate Impacts Programme)	Redrafted and text dropped
410	54607	14	18	36	18	42	The author team may consider adding a conceptual figure explaining the different strategies including categories identified by other studies. Moreover, it may be useful if the difference between options and strategies is clarified. (Monalisa Chatterjee, IPCC WGII TSU)	Table included
411	40931	14	18	37	18	42	It should be made clear that these broad strategies for adapting to climate change from Hallegatte (2009) are particularly referring to dealing with uncertainty in climate change outcomes. Also the examples given under point (i) do not necessarily seem to be 'no regret' – all are still costly and will only be no regret if the benefits exceed the costs under the current climate and all likely future climates. (Frances Moore, Stanford University)	But it is implicit in the examples that there is a co-incident of appropriate current and adaptation options. But text dropped
412	48913	14	18	37	18	42	Hallegatte's work starts to define a framework for adaptation planning (within which options / measures are enacted). Such a framework might also include Barnett's work on maladaptation (p33, lines 11/14) (Leon Soste, Department of Primary Industries, Victoria, Australia)	Death with in section 14.7 - space efficiency
413	35632	14	18	38	0	0	climate-proofing buildings is not necessary a 'no-regret' strategy. In line with the cited literature, it should be clarified to "climate-proofing new buildings." (Norio Saito, Graduate School of Science and Engineering, Ibaraki University)	Text dropped
414	53040	14	18	38	18	38	Low regrets options would be a better framing, to reinforce that all options have the potential for regrets, because of money spent, human capital used, etc. (Kristie L. Ebi, IPCC WGII TSU)	We are describing what is said in the peer reviewed literature! But text has been dropped.
415	46073	14	18	42	18	42	Hydrologically not likely. (Luis E. Garcia, World Bank)	Text dropped
416	37700	14	18	50	0	0	Comment 2: Both the risk and resilience efforts are presented as vehicle to communicate actionable information to policy makers and industrial stakeholders. [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] [Vugrin, E. and M.A. Turnquist, 2012: Design for Resilience in Infrastructure Distribution Networks. Sandia National Laboratories. Report SAND2012-6050 Albuquerque, NM. Available at: http://www.sandia.gov/CasosEngineering/docs/Vugrin_resilient_design_2012_6050.pdf] [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)	Not sure where this point fits - please check current text in new 14.4.3
417	53041	14	18	50	18	53	This is repeated. (Kristie L. Ebi, IPCC WGII TSU)	From where?
418	45051	14	19	1	0	0	This section seems to miss a discussion of different risk framings and different approaches to risk mitigation according to different types of threats faced for different decisions types (see Hallegatte 2009, Stafford Smith et al 2011, both already cited in the chapter). (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Need to followup. Does the point refer to the chpt or section as a whole.
419	45794	14	19	1	19	3	Other factors that are also considered include robustness, sustainability and flexibility, as wellas considering dependencies and interdependencies (Roger Street, UK Climate Impacts Programme)	We are citing Martens. The next point is about divergent opinions.
420	41405	14	19	3	19	3	I think it should say "social and environmental impacts". (Sven Harmeling, Germanwatch)	Agree, but text dropped
421	39057	14	19	5	19	7	Needs references (Elissa Waters, University of Melbourne)	Text dropped
422	40261	14	19	5	19	7	"One of the main specific contexts": Reference(s) needed for this statement. (Haseeb Irfanullah, Practical Action)	Text dropped

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
423	47693	14	19	6	0	0	Some references would be helpful to support the following statement: One of the main contributions of recent research on adaptation has been to suggest that adaptation options, at least the majority of those that might be expected over the short term, are often ambiguous, contested and embedded in specific contexts. (Bob Pokrant, Curtin University)	Text dropped
424	48761	14	19	7	0	7	It is worth precisising the reference. (ALEXIA LESEUR, CDC Climat Research)	Text dropped
425	48762	14	19	9	0	15	The paragraph is useful but I think it should come earlier (near p18 line 41-43); the concept of hard adaptation is linked to the idea of capital goods (see World bank adaptation guidance notes) (ALEXIA LESEUR, CDC Climat Research)	Text has been restructured. Please check new text - especially 14.3.1
426	45795	14	19	9	19	9	Need to ensure consistency when labeling adaptation measures as soft and hard (see 14.3.1.2) (Roger Street, UK Climate Impacts Programme)	Agree - text dropped.
427	40262	14	19	9	19	15	Reference(s) needed for this paragraph. (Haseeb Irfanullah, Practical Action)	Text dropped
428	47261	14	19	9	19	15	There will be Losses associated with climate change, even fter adaptation and mitigation, and this needs to considered in the spectrum of adaptation options. Is aborsbing the loss an option rather than adapting? (Juan Hoffmaister, Third World Network)	Good point - and will follow up across all adaptation chapters
429	53042	14	19	18	0	0	Much of the text in this section is not well linked to the section title. (Kristie L. Ebi, IPCC WGII TSU)	Explain please.
430	45052	14	19	21	0	0	Could add 'demand management for water supplies' for a different style of option (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Noted, but not included
431	40299	14	19	22	19	22	The EU Strategic environmental Assessment Directive is a good example of a legislative instrument which requires specific consideration onf climate change considerations, and this mostly involves adaptation considerations. (John Sweeney, National University of Ireland Maynooth)	Noted
432	53043	14	19	22	19	29	Most of this is repeated elsewhere. (Kristie L. Ebi, IPCC WGII TSU)	Redrafted - this component retained
433	47249	14	19	31	19	29	The discussion on safety needs is good and should be expanded in different parts of the text. This should also be present in the SPM (Juan Hoffmaister, Third World Network)	See new 14.3.1 & 14.4.6 and now in Exec Sum
434	46074	14	19	33	19	33	Malnutrition sometimes results from extreme events, but not often. There are other socioeconomic causes, unfortunately. (Luis E. Garcia, World Bank)	The sentence says 'often'
435	40905	14	19	38	0	0	Add after "initiatives" the phrase "such as building the capacity of first responders to train and engage local communities." (Lynn Wilson, SeaTrust Institute)	I think this is a different point. But text no longer used.
436	45281	14	19	41	9	41	The whole chapter 14 stays on a rather general level (I am aware that there is probably no other way), but sentences like the first one of this paragraph are so obvious and banal, they should be avoided (Marcus Kaplan, German Development Institute)	Fully agree. Sentence dropped. Please look for any further examples.
437	54611	14	19	43	19	47	Robust governance measures" needs further clarification and specific examples of 'improving governance mechanisms' would be very useful. (Monalisa Chatterjee, IPCC WGII TSU)	So you will allocate more pages???? But the point has been dropped.
438	45053	14	20	6	0	0	See Stokes and Howden 2010 for comprehensive reviews in Australia (Stokes, C. and Howden, M. (2010). 'Adapting agriculture to climate change: preparing Australian agriculture, forestry and fisheries for the future.' (CSIRO Publishing: Melbourne.)) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Citation used elsewhere - 14.3.1
439	54612	14	20	9	20	13	The author team should add all the relevant references to support this discussion. Moreover, it would be useful to explicitly identify 'agricultural practices that are well known in the region'. (Monalisa Chatterjee, IPCC WGII TSU)	This would be a massive list! Citation is UNFCCC 2006 but will seek other refs .
440	47250	14	20	9	20	19	This is a very important discussion and this should be maintained with the same tone. The version in the first Order Draft is carefully balanced. (Juan Hoffmaister, Third World Network)	Have kept text - merged paras
441	40263	14	20	12	20	13	"For example, of interest": Floating gardening in waterlogged conditions has been traditionally practiced in southern Bangladesh (IUCN Bangladesh, 2005; Irfanullah et al., 2008). Very recently it has been introduced to northern and eastern Bangladesh (Irfanullah et al., 2008, Irfanullah et al., 2011). Floating gardening is often promoted as an effective adaptation measure for rural Bangladesh under climate change scenario which includes increased water stagnation. A recent study has investigated possible impacts of climate variability on floating gardening (Irfanullah, 2009). It recommended undertaking further study before widely promoting an adaptive measure like floating gardening. 4 references -- Ref. 1: IUCN Bangladesh, 2005. Baira: the Floating Gardens for Sustainable Livelihood. IUCN Bangladesh Country Office, Dhaka, viii+61 pp. Ref. 2: Irfanullah, H.Md., Adrika, A., Ghani, A., Khan, Z.A. and Rashid, Md.A. 2008. Introduction of floating gardening in the north-eastern wetlands of Bangladesh for nutritional security and sustainable livelihood. Renewable Agriculture and Food Systems 23(2), 89-96. Ref. 3: Irfanullah, H.Md., Azad, Md.A.K., Khan, A.K.M. Kamruzzaman and Wahed, Md.A. 2011. Floating gardening in Bangladesh: a means to rebuild lives after devastating flood. Indian Journal of Traditional Knowledge 10(1), 31-38. Ref. 4: Irfanullah, H.Md. 2009. Floating gardening in Bangladesh: Already affected by climate variability? In: IUCN, UNEP, UNU. Biodiversity conservation and response to climate variability at community level. IUCN, UNEP, UNU, Dhaka, Bangladesh, 7-14 pp. (Haseeb Irfanullah, Practical Action)	Idea and citation now in 14.3.1
442	45282	14	20	12	20	13	This example does not contain any additional information, thus drop it (unless you bring an example where a successful agricultural practice has been transferred to another region) (Marcus Kaplan, German Development Institute)	People have been doing this for millenia - albeit with partial success. Few will ever identify CC as the primary reason for adpoting new practices.
443	50854	14	20	15	20	39	The author team should consider providing further citations to support the statements. Additionally, on line 17, it would be preferable to provide greater specificity in place of the word "need," to avoid potential interpretations of policy prescription. (Katharine Mach, IPCC WGII TSU)	Citation used elsewhere - 14.3.1
444	45054	14	20	17	0	0	not only enforcement, but also mechanisms to facilitate ongoing review of standards in response to a non-stationary climate (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	The final clause was a such as - did not want to start a long list

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
445	41168	14	20	42	0	0	Section 14.3.2.3 pg 20 line 42 – subsection title – either add the word ‘options’ or replace ‘adaptation’ with ‘option’ to be consistent with previous subsections and more specific about what the section is about. (Susan Evans, WWF-Canada)	Agree - Redrafted
446	48482	14	20	42	0	0	Section 14.3.2.3. Ecosystem-Based Adaptation - This section specifically addresses EbA, yet does not attempt to define it - or even cite an existing definition(s) (which are usually very broad). This makes it difficult for a reader not familiar with the term to really understand its meaning or potential significance as an adaptation option. Given the focus of the Nairobi Work Program on EbA in 2013 this may be an opportune time for the IPCC to help define it. (David Hole, Conservation International)	See new sections especially 14.3.1 where definition is now given.
447	50855	14	20	42	0	0	Section 14.3.2.3. The author team could consider assessment in chapters 4-6 and 30, for example, and provide cross-references in introducing observed and projected impacts affecting ecosystem services. (Katharine Mach, IPCC WGII TSU)	Noted
448	53044	14	20	42	0	0	Why a section only on EBA and not on activities in other sectors? (Kristie L. Ebi, IPCC WGII TSU)	Redrafted
449	54614	14	20	42	0	0	Section 14.3.2.3. The section needs further expansion as the chapter leans heavily over human systems. (Monalisa Chatterjee, IPCC WGII TSU)	Interesting - earlier comment was that we had focused only on natural systems! But agree - see new 14.3.1
450	37014	14	20	42	21	11	Ecosystems are the only natural means to achieve mitigation by removal of CO2 and, if possible, other GHG. You neglect this topic. The trade-offs concerning e.g. land management explicitly include mitigation among the services to be provided. (Joachim Rock, Johann Heinrich von Thuenen-Institute, Federal Research Institute for Rural Areas, Forestry and Fisheries)	There are other chapters focusing on this issue
451	54613	14	20	44	20	50	The author team may consider reducing such introductory discussions and refer readers to specific chapters where such findings are discussed in detail. (Monalisa Chatterjee, IPCC WGII TSU)	Redrafted
452	41169	14	20	44	21	10	Section 14.3.2.3 pg 20 line 44 - to pg 21 line 10 – this section focuses heavily on those actions that help people adapt and thus does not give adequate consideration to those actions/options needed to help ecosystems adapt for their own sake, regardless of their provisioning to humans. Options such as zonation, protected areas, restoration, corridors, or refugia. (Susan Evans, WWF-Canada)	Check the definition of EBA - adaptation of ecosystems is covered in earlier chapters
453	45796	14	21	2	21	5	Also building adaptive capacity through mainstreaming within forest management, ecosystem / conservation management, supportive policy and practice, etc. (Roger Street, UK Climate Impacts Programme)	text redrafted
454	43329	14	21	14	0	0	Brazil has a long experience in involving actors for adaptation to climate change. Cooperatives, neighborhood associations, municipalities and churches actively engage people into local projects to face drought, heat waves, floods, storms, food security, access to drinking water. These were described in the book "Water and Climate Change" (by Milton N Silva et al, published by Centro de Documentacao Eloy Ferreira da Silva and Fundacao Banco do Brasil, Belo Horizonte, 2012). Copy was sent via email. (Milton Nogueira da Silva, Climate Change Forum of Minas Gerais, Brazil)	Citation noted. Are there new or different ideas in the book?
455	45798	14	21	14	21	14	The role of professional institutions in advancing adaptation should be considered as they play a critical role. (Roger Street, UK Climate Impacts Programme)	Happy to include, but do you have examples?
456	48763	14	21	14	28	25	These two sections could be mentioned after the section of "measuring adaptation" as they are more general and give a global overview of the process. (ALEXIA LESEUR, CDC Climat Research)	Considered, but did not restructure in that way
457	44410	14	21	16	0	18	There is an emerging literature on the important role of leadership in adaptation (see Moser and Ekstrom and others) this needs to be covered in coordination with the other adaptation chapters. (Linda Sygna, University of Oslo)	Agree. On a recheck we mention the importance of leadership but probably need to add more in next draft.
458	48914	14	21	16	21	18	generation of appropriate options' - suggest adding thought that - in addition to (seeking the) contribution of views, ideas etc from diverse actors, those ideas plans etc need to be implemented coherently (Leon Soste, Department of Primary Industries, Victoria, Australia)	Considered but not included
459	46075	14	21	16	21	54	This seems to have been said before, same as that on lines 42 to 52 in page 22 (Luis E. Garcia, World Bank)	Restructured to reduce overlap
460	45055	14	21	21	0	0	The purpose of this section is unclear, is it to recommend a particular actor focus in particular circumstances? Else it is just a shopping list. It would help to draw out some conclusions or a typology (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Agree. See restructure and redrafted section
461	52772	14	21	21	0	0	Section 14.4.1.1. It is surprising not to see more on the important role of local government in land use planning. On this, and the importance of spatial planning in general, see Wilson, E. and J. Piper (2010). Spatial Planning and Climate Change. Routledge, and the reports that came out of the ESPACE Inter-reg project. (Tim Rayner, University of East Anglia, Tyndall Centre for Climate Change Research)	Good point, but we have tried not to simply generate lists of responsibilities for each of the actors, but to focus on their particular roles, interactions and challenges.
462	44178	14	21	21	11	54	In section 14.4.1.1 there is discussion on local experiences of adaptation. There is a new Special Issue of Local Environment (2012, Vol. 17, No. 6-7, p. 573-767) on experiences of local adaptation in the Nordic countries that touch on many of these issues. (Sirku Juhola, Aalto University)	Will access and check for material
463	53045	14	21	23	0	0	This section could cite relevant conclusions from the SREX, particularly from chapter 5. (Kristie L. Ebi, IPCC WGII TSU)	Why?
464	35491	14	21	25	21	26	"Local governments are ...critical actors..in shaping the options identified and selected" - identified and selected by whom? (Susanna Kankaanpää, Helsinki Region Environmental Services Authority (HSY))	Agree. Unclear and missed in redraft. Will reconsider in next draft.
465	45797	14	21	25	21	28	Local governments are also integral to advancing adaptation of local business and industry, although I believe all levels of government have a role in advancing adaptation of business and industry. (Roger Street, UK Climate Impacts Programme)	Noted
466	45056	14	21	27	0	0	repetitive and (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Meaning?
467	53046	14	21	35	21	38	The local scale may work well despite what is going on. (Kristie L. Ebi, IPCC WGII TSU)	Don't follow the point.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
468	37609	14	21	40	21	48	Local governments in developed countries, particularly those of poor and marginalized peoples, lack the capacity as well to adapt to climate change. This fact should be made here and/or on page 13 line 4 and page 18 line 19-22 in the section yet to be written on capacity. The small indigenous communities I work with in Alaska with the AKSIK project (www.aksik.org) have only 250-500 people in them and lack the capacity (staff, knowledge, institutions) to write disaster mitigation plans necessary to qualify for disaster relief in the United States, a very wealthy country with admittedly weak and disaggregated state and federal institutions to coordinate adaptation efforts (a point made later on in this chapter). The point that integrating adaptation planning and support is also difficult in such communities in developed countries, I think, should be made in this chapter. (Jon Rosales, St. Lawrence University)	Isn't this what is said in the para?
469	45057	14	21	43	0	0	These are also issues in many small local governments in developed nations (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	the earlier phrase was 'particularly in developing countries' which does not exclude developed.
470	45799	14	21	45	21	48	it would be useful to include reference to the differences in the roles between local politicians and local officials. (Roger Street, UK Climate Impacts Programme)	Noted
471	45058	14	21	48	0	0	oriented to adaptation rather than away from stated priorities - Doesn't make sense (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Will redraft - word 'on' is missing
472	53047	14	21	48	21	48	This is a place where conflicting priorities could be discussed. (Kristie L. Ebi, IPCC WGII TSU)	Noted - but thought that was the point of the sentence.
473	41422	14	21	50	21	54	Other indicators are: the existence of a reliable scientific basis (city/community specific impact and adaptation option assessments), the promotion of developmental co-benefits of climate change adaptation interventions, sound knowledge and awareness on climate change and the necessity to adapt to it among local residents, introduction of monetary incentives to encourage private actors e.g. water efficiency (Sven Harmeling, Germanwatch)	Paragraph dropped
474	45059	14	21	54	0	0	See also on LG: UK Climate Adaptation (S/Ctee 2011/2012); Tompkins et al 2010; Australian references. There is lots more really, but no point putting them in without coming to some conclusion. In Australia, 3 key types of decisions cover most decision-making in local government (each type with very different sorts of otions and issues) - land use planning and building code implementation [contested issues such as coastal retreat]; engineering and maintenance of public infrastructure [reasonably straightforward engineering style decisions]; and social and environmental/community services [much more about building adaptive capacity in the community, etc]- a typology of this sort would give some guidance, especially if paralleled across other sectors. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Point noted. We have tried to provide more structure across the chapter. Will appreciate further feedback
475	48046	14	22	0	23	0	There may be some overlaps with Ch.12 (12.3 and 12.5) on indigenous peoples, social capital, state and local institutions (So-Min Cheong, University of Kansas)	Noted, and this has been checked in redraft
476	39058	14	22	3	0	0	14.4.1.2 This section is weak. It needs to be stressed that the role of households in adaptation is not limited to livelihoods. Perhaps some more examples would illustrate the important role households play in adaptation to extreme events, eg disaster preparedness. See Paton, D and McClure, J and Burgelt, P, Natural Hazard Resilience: The Role of Individual and Household Preparedness, Disaster Resilience: An Integrated Approach, Charles C Thomas, Douglas Paton and David Johnston (ed), Springfield, Ill., pp. 105-127. (Elissa Waters, University of Melbourne)	Please see redraft and new material
477	45060	14	22	3	0	0	Not a very useful section - and what about firms, other local actors? (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Please see redraft and new material
478	45800	14	22	3	22	11	The role of households within urban areas in advancing adaptation? There has been some research in this area within the UK (see www.arcc-cn.org.uk) but also in other countries. (Roger Street, UK Climate Impacts Programme)	Please see redraft and new material
479	53048	14	22	3	22	37	The examples are interesting, but cover only a narrow range of sectors. It would be important to include other sectors. (Kristie L. Ebi, IPCC WGII TSU)	Don't follow. These are actors not sectors.
480	40932	14	22	5	22	11	This is a fairly limited discussion of the role of households in adaptation, particularly given that many adaptations are a private good and thus will likely be undertaken by private actors, including households. The adaptive responses of households go far beyond farm-management changes discussed here (e.g. purchasing insurance, retrofitting households for improved resistance to flood or wind damage, installing air conditioners, modifying behavior to reduce exposure to extreme heat or vector borne diseases, migration). A more thorough discussion is needed here. (Frances Moore, Stanford University)	Agree. Please see redraft and new material
481	43330	14	22	14	0	0	With more than 200 indigineous ethnic groups, Brazil has a long history of studying, assisting and involving aboriginal tribes into modern ways of live. Results have been mixed, most tribes suffer from the approaching lifestyles coming from urbanised people and from agribusiness, especially in the Amazon. For further details contat: Fundacao Nacional do Indio. Conselho Indigenista Missionario, www.cimi.org.br . Centro de Documentacao Eloy Ferreira da Silva. Instituto Brasileiro de Geografia e Estatistica. (Milton Nogueira da Silva, Climate Change Forum of Minas Gerais, Brazil)	We are checking this reference, but are there specific points that need to be made?
482	45061	14	22	14	0	0	(Note: See indigenous section in Australasian Chapter for some different issues) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Cross check. Please see redraft.
483	45801	14	22	14	22	37	There has been concern expressed when changes are outside traditional knowledge (e.g., changes in ice and snow in the Arctic and implications for hunting and travel). (Roger Street, UK Climate Impacts Programme)	Agree. Please see redraft
484	53049	14	22	16	22	28	A meeting report for the July 2011 meeting on indigenous knowledge for adaptation is now available. (Kristie L. Ebi, IPCC WGII TSU)	Accessed and references taken from it
485	37610	14	22	17	0	0	In addition to the end of the sentence "...when to respond to climate change and climate variability" could be the fact that many traditional subsistence cultures possess strong cultural practices, such as food and resource sharing, that make them resilient to climate change. (Jon Rosales, St. Lawrence University)	Agree, but this is taken up in Chpt 12

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
486	38891	14	22	23	0	0	Please add the following ancillary material: The Bedouin practice intercropping, planting different crops with each other to maximise the use of the available water and to stop land degradation. Another advantage of intercropping is that it minimises the risk of crop failure as a result of water shortages. If one crop has not been able to withstand water shortage stress, the other crops may continue and thus provide some food. Reference : M, Tawfic Ahmed, Luohui Liang, Manal Hassan, Naglaa Loutfi, Kariman Mahmoud, and Mayar Sabet, Local Knowledge: A valuable Resource, In Ecosystems Service and Human Well- Being, El Maghara North Sinai, Egypt, 2010, A UNEP Publication http://www.unep.org/dewa/Portals/67/pdf/MA%20SINAI.pdf (Mohamed Tawfic Ahmed, Suez Canal University)	Thankyou, but unfortunately we do not have space for this detail. Has this been suggested to chpt 12?
487	47925	14	22	25	0	0	The point of this sentence is unclear: "The choice of crops to plant during a dry or wet year has been found to be successful in reducing the adverse impacts of climate change and variability (Lansigan et al., 2007)." This is a vague finding, devoid of context, it would be more helpful to clarify which adverse impacts can be reduced. (Jenny Frankel-Reed, USAID)	Agree - dropped
488	47209	14	22	30	22	31	It may be more accurate to stress 'Recognizing the importance of traditional knowledge in relation to adaptation and climate change impacts' as opposed to the uni-directional implications of 'drawing on their traditional knowledge of adaptation measures'. (see also related comment on 14.22.35 - 14.22.37) (Jennifer Rubis, United Nations Educational, Scientific and Cultural Organization (UNESCO))	Agree - please check redraft
489	39178	14	22	31	22	33	I found this example not so convincing since it mostly refers to monitoring by the agro-pastoralists and less to adapting to drought. (Christopher Reyer, Potsdam Institute for Climate Impact Research)	Not certain of point being made. But please see redraft
490	37611	14	22	35	0	0	A reference supporting the sentence ending with "... climate impact information" could be Ignatowski and Rosales. 2012. The Local and Professional Science of Climate Change in Two Subsistence Alaskan Villages. Submitted. (Jon Rosales, St. Lawrence University)	Have not seen document
491	40264	14	22	35	22	37	Reference (Irfanullah and Motaleb, 2011) mentioned above in the comment on page 16 is suitable here. (Haseeb Irfanullah, Practical Action)	Noted
492	47210	14	22	35	22	37	It may be useful to refer to Nakashima et al. 2012, which looks also at the impact on existing policies and the impact of these upon indigenous strategies and plans for adaptation. (Nakashima et al 2012. Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation. Paris, UNESCO, and Darwin, UNU, chapter 5. with key highlights on pg 63). A dimension that could be strengthened in relation to indigenous assessments of climate impact is that the locally relevant information is also of use because a. policy-makers and scientists can understand what information is important for local adaptation and b. indigenous peoples observe in different ways that, if given space in decision-making, can add depth and accuracy to the existing body of knowledge. Extracting from page 36 of Weathering Uncertainty: While additional investigations are required, the two studies offer interesting insights into the nature of both indigenous and scientific knowledge. First, even though indigenous peoples and scientists may seem on the surface to be observing the same phenomenon in the same environment (e.g. weather in the Arctic), in actual fact the nature of their observations may quite profoundly differ (Nichols et al., 2004). Indigenous observers base their conclusions on multiple environmental and social factors that they consider in an integrated manner (e.g. wind speed, direction and variability, combined with temperature and precipitation, as well as the need for shelter and safety when travelling with or without family). In contrast, scientists may isolate a single environmental variable (e.g. temperature or wind speeds) and reach broader conclusions based upon an extrapolation from this narrow data set (Weatherhead, Gearheard and Barry, 2010). Furthermore, climate scientists often focus their attention on mean values (e.g. mean wind speed), while the primary preoccupations of indigenous observers of weather may be the intensity and frequency of peaks and lows (Weatherhead, Gearheard and Barry, 2010). Marin 2010. also gives an example from nomadic pastoralists in Mongolia where metereological measures of rainfall are not appropriate or at a scale relevant to herders who instead rely on qualitative measures of rain. Marin, A. 2010. Riders under storms: contributions of nomadic herders' observations to analysing climate change in Mongolia. Global Environmental Change, 20: 162–76. (Jennifer Rubis, United Nations Educational, Scientific and Cultural Organization (UNESCO))	Nakashima reference included. Cannot include all the detail, but please check redraft
493	53050	14	22	40	0	0	This section could cite relevant conclusions from the SREX, particularly from chapter 5. (Kristie L. Ebi, IPCC WGII TSU)	Checked, but nothing exceptional

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
494	44792	14	22	40	0	52	Ecosystem-based adaptation gets a subheading (page 20, line 42). Suggest that community-based adaptation also be elevated to a subheading rather than being under the subheading of local communities. Could also say that there is a parallel to CBA in development - population, health and environment (PHE) and that these two types of programming offer a linkage point between climate change adaptation and sustainable development programming. A forthcoming chapter is a book addresses this linkage: Jason Bremner, J., K Hardee, K Mogelgaard, H D'Agnes. Forthcoming. "Population, Family Planning, and Climate Change Vulnerability: Addressing the Links in Community-based Projects." In UNFPA, Eds. Population Dynamics and Climate Change Adaptation. New York: UNFPA. Bremner et al. (forthcoming) note that PHE could be considered a special case of CBA in which particular attention is paid to an often-overlooked aspect of women's vulnerability—i.e., enhancing women's ability to plan the number and spacing of their children. Comparing CBA and PHE approaches, one finds that they have several similarities, although they generally differ in their main objective (improving communities' ability to cope with climate change vs. improving communities' health status and livelihoods while sustaining local resources). A good article on a PHE program in the Philippines that focuses on coastal resource management is: D'Agnes, L., D'Agnes, H, Schwartz, J.B., Amarillo, M.L, & Castro, J. 2010. Integrated management of coastal resources and human health yields added value: a comparative study in Palawan (Philippines). Environmental Conservation. doi: 10.1017/S0376892910000779. Operations research in the Philippines comparing integrated health and environment project sites to similar sites implementing only activities in a single sector (health or coastal resources management), found that integrated PHE projects performed better than or equivalent to single sector projects for all health and ecological indicators examined (D'Agnes et al, 2010). (Karen Hardee, Futures Group)	Sub-headings changes - EBA no longer a subheading. But agree about importance of CB. Checking D'Agnes reference for inclusion of core points in next draft
495	54615	14	22	40	23	17	The section heavily relies on extreme events examples, the author team may wish to add some examples of local community involvement in reducing the risks from gradual climate change. (Monalisa Chatterjee, IPCC WGII TSU)	Disagree that the section focuses on extreme events.
496	50856	14	23	4	23	6	It would be helpful to specify the timeframe relevant to these examples. (Katharine Mach, IPCC WGII TSU)	Meaning?
497	50857	14	23	10	23	15	It would be helpful to specify the timeframe relevant to these examples. (Katharine Mach, IPCC WGII TSU)	Meaning?
498	40906	14	23	20	23	40	This section would benefit from considerable expansion and broadening the nature of relationships of and between NGOs. A number of areas and examples of Civil Society and NGOs could be cited such as: international technical support by NGOs in developed countries to NGOs/CBOs and governments in developing countries for climate change planning, monitoring, training, and implementation; etc. (Lynn Wilson, SeaTrust Institute)	Most sections could gain from an expansion, but we have space limits. I think the redraft covers the technical support from CSOs/NGOs
499	41170	14	23	22	23	30	Section 14.4.1.5 pg 23 line 22-30 – NGOs also have been known to play a 'bridging' or 'translation' role between stakeholders, and between the science and policy realms. (Susan Evans, WWF-Canada)	See revised text
500	41406	14	23	23	23	24	NGOs also have the potential to report on inaction. (Sven Harmeling, Germanwatch)	Tried to capture that in redraft
501	46076	14	23	25	23	30	The Quito example seems like it was motivated by other reasons and not climate change. Was it? (Luis E. Garcia, World Bank)	Cross checked - most actions with have purposes in addition (even primary) to CC
502	40265	14	23	33	23	35	This sentence is same as that of Page 24, Lines 15-17 (Section 14.4.2.2). One sentence needs to be revised. (Haseeb Irfanullah, Practical Action)	Redrafted
503	45062	14	23	34	0	40	This is one useful sort of conclusion for this section - the rest is just anecdote. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	See redrafted material
504	39059	14	23	45	0	0	14.4.2.1 Generally this section on the role of government is lacking depth, especially compared to the detail and length of the role of the private sector. It would be worth explicitly referencing the role of governments in decision-making on funding priorities and tradeoffs. The provision of grants and the funding of programs for adaptation is a key role for government that will be needed to encourage information provision, policy development, and adaptation implementation at the local level. Across both developed and developing countries there will also be a need for governments to implement various degrees of legislative and regulatory reform in order to allow for adaptation within institutional systems. There is a clear link between sections 14.3.1.1 'Institutional Needs', 14.3.2.1 'Institutional and Social Options' and this section on the role of government, that is not reflected in the current level of detail. (Elissa Waters, University of Melbourne)	Good points although many of these points are taken up in other chapters. But also see added text.
505	52773	14	23	45	0	0	Section 14.4.2.1. Not clear why district government is mentioned here separately from local government, discussed previously in 14.4.1.1. (Tim Rayner, University of East Anglia, Tyndall Centre for Climate Change Research)	Agree - Dropped
506	53051	14	23	50	23	50	Only evaluating published articles is an important limitation. (Kristie L. Ebi, IPCC WGII TSU)	Agree - so do we ignore it?
507	35492	14	24	0	0	0	Please give the definition of civil society organisation and how does it differ from non-governmental organisation (Susanna Kankaanpää, Helsinki Region Environmental Services Authority (HSY))	I don't know of such a definition although see entry sentence in redraft. Is it necessary in the context of the paragraph?
508	45063	14	24	1	0	0	So what? (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Agree - but see redraft and 504
509	53052	14	24	1	24	2	Relevant sections of SREX could be cited. (Kristie L. Ebi, IPCC WGII TSU)	Noted
510	54616	14	24	10	0	0	Section 14.4.2.2. The author use only two sources to support findings in this section. If literature permits the authors should add other relevant sources to support this discussion. (Monalisa Chatterjee, IPCC WGII TSU)	Redrafted - 7 refs
511	42917	14	24	10	24	18	Civil society actors have a potentially large role to play as 'boundary organisations' for adaptation due to strong government linkages and training/communications capacity particularly in developing countries - cross link with ch 2 p24 18-21 and see for example Brooke, C. (2008) Conservation and adaptation to climate change, Conservation Biology 22(6), 1471 - 1476. Also note that they often play a technical support function to developing countries in particular in policy dialogues such as the UNFCCC. (Cassandra Brooke, WWF-International)	Agree - see redraft
512	46077	14	24	10	24	18	Wasn't this said in section 14.4.1.5 on the previous page, lines 20 to 40? (Luis E. Garcia, World Bank)	Agree - see restructure

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
513	35806	14	24	12	0	18	This section ignores the role that ngos play in blocking adaptation to climate change by attacking the validity of the science of climate change. This is certainly a major impact on the politics of the U.S. and needs to be addressed in this report. (Robert Brulle, Drexel University)	Included. See redraft
514	53053	14	24	13	24	13	Please define CSO. (Kristie L. Ebi, IPCC WGII TSU)	See introductory sentence of redraft
515	45064	14	24	15	0	0	Again, useful but how, why and when/where appropriate? (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Have tried to include more about effectiveness etc. See redraft
516	45802	14	24	21	24	34	I would have expected to see the private sector also identified under local actors. (Roger Street, UK Climate Impacts Programme)	I think the private sector is often wider than local.
517	41171	14	24	23	0	0	Section 14.4.2.3 pg24 line23 – Additional references include: National Round Table on the Environment and the Economy, 2012. Facing the Elements: Building Business Resilience in a Changing Climate (Advisory Report). Ottawa, Canada. 136p.; Carbon Disclosure Project https://www.cdproject.net/en-US/Pages/About-Us.aspx - their work on water disclosure (Susan Evans, WWF-Canada)	Noted and accessed, but not included
518	40933	14	24	23	24	34	The differentiation of “private sector” from households is somewhat confusing, particularly given the treatment in Chapter 17 where ‘private’ is used to refer to any investments made in private goods in a private capacity, whether by households or individuals, and is used to differentiate from public (government) investments. “Businesses” could be a clearer terminology. (Frances Moore, Stanford University)	One is 'private sector' the other is 'private investment'. The phrase private sector is well established in common and technical language. Not all private sector activity is through a 'business' so that is also confusing
519	45363	14	24	23	25	9	I had very little time to look at this unfortunately, but it seems that the section is underdeveloped. I agree that the role of the private sector is fundamental, but no arguments are given. Perhaps the following are useful: private sector investment constitutes 86% of the global investment and financial flows (UNFCCC 2009) and approximately 90% of population in developing countries depends on the private sector for their income (SER 2011). Furthermore, a difference needs to be made between developed countries and the least developed countries. The private sector is less developed in the latter and has a very different role. At the same time, the business climate is underdeveloped, which keeps multinational companies out (risks are often too high). A difference needs to be made between different sectors. Resource extraction in developing countries is being done by multinationals, but they are usually not interested in sectors such as health and education - both of which are also key in climate change adaptation. (Willem Pieter Pauw, German Development Institute (DIE))	These are sweeping generalisation and only indirectly related to adaptation. What else would you like us to say in the space available?
520	45364	14	24	26	0	46	I know that Khattri et al (2010) report and it is an excellent publication. However, it focuses on urban poor and is therefore narrow in its scope. It would help to refer to some other literature too (e.g. Atteridge 2011 (Working Paper No. 2011-05); Naidoo, T., K. Vaz, et al. (2012); ECA 2009 (Shaping climate -resilient development. A framework for decision-making, Economics of Climate Adaptation Working Group); Oxfam America, 2009 (The new adaptation marketplace: climate change and opportunities for green economic growth). (Willem Pieter Pauw, German Development Institute (DIE))	References checked, but do not see which points should be included.
521	45365	14	24	26	0	46	On the three reasons (Khattri et al, 2010): the distinction has some flaws. For example, 'business as a stakeholder' and 'business opportunity' largely overlap. Under which category does it fall if a firm is financed to construct a climate-proof bridge by the government? The private sector will only do category 2 if it results in category three, because the ultimate aim is to innovate and to make profit. So why not put 2 and 3 in the same category? (Willem Pieter Pauw, German Development Institute (DIE))	We must cite the literature accurately. Of course the categories overlap and inevitably a local business will often fall into 2 while possibly carrying out 3. This is the rationale for introducing Khattri's categorisation - ie to get people thinking about these issues. If we had a few more pages then more points could be made.
522	45065	14	24	26	0	48	This is an example of more useful text (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	That's a relief!
523	50858	14	24	26	24	26	It would be helpful for the reader to specify what the acronym SME stands for. (Katharine Mach, IPCC WGII TSU)	Done
524	53054	14	24	28	24	28	Knock-on effects could be discussed. (Kristie L. Ebi, IPCC WGII TSU)	Meaning?
525	45366	14	24	30	0	34	One example in New York is too little to make a strong case. In the NAPAs, most LDCs did not include the private sector in their NAPA Steering Committee or Board (Willem Pieter Pauw, German Development Institute (DIE))	Agree - but this should be taken up in the NAPA section.
526	40298	14	24	34	24	34	The World Mayors Council on Climate Change is an 80 strong alliance of local government leaders taking action on climate change mitigation and adaptation. They are advocates for greater engagement by local governments as stakeholders in respect both of mitigation and adaptation. (John Sweeney, National University of Ireland Maynooth)	Noted
527	54617	14	24	37	24	37	Figure 14.1 could be expanded to synthesize different ways all actors (discussed in sections within 14.4) can become involved in adaptation. A conceptual figure would be very useful for readers to follow discussions in different sections. (Monalisa Chatterjee, IPCC WGII TSU)	Thanks, and we are working on this - but they all come out fairly trite!
528	45169	14	24	39	24	46	Note that the private sector will largely be reactive, following demand, without a price incentive such as a credit mechanism (defined broadly) may bring. See above papers (referenced immediately above) that illustrate potential and issues. May wish to also note that it appears like the incentives for the private sector (North) to engage at this time is primarily for (1) supply chain management and (2) corporate social responsibility reasons. See survey results in Schultz, K., Mader, R., Adler, L., Tapley, B. (2012): "Using a Market Mechanism to Prioritize Climate Adaptation and Enhance Adaptive Capacity", poster session 3, no. 36, Planet Under Pressure Conference, London, 26-29 March 2012, abstract available at: http://elsevier.conference - The full poster is on website www.thehighergroundfoundation.org referenced and linked near bottom of the main page. (Karl Schultz, The Higher Ground Foundation)	As much as I would like to discuss the Higher Ground ideas here, I think they are best with Chpts 15 or 17.
529	47251	14	24	39	24	46	Similar to the point above on the role of private sector on page 17, the role of the private sector seems to be overly optimistic. See Atteridge, A. 2011. Will Private Finance Support Climate Change Adaptation in Developing Countries? Historical Investment Patterns as a Window on Future Private Climate Finance. SEI Working Paper 2011-5. (Juan Hoffmaister, Third World Network)	Agree - Atteridge included as a final (warning) sentence.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
530	39179	14	24	41	24	41	Why only the urban poor? Not the poor in general? (Christopher Reyer, Potsdam Institute for Climate Impact Research)	Agree - sentence dropped
531	40907	14	24	44	0	0	Add " transportation and technology" after Khattri cite if those were not included in the original list. (Lynn Wilson, SeaTrust Institute)	Don't follow the point
532	53055	14	24	48	24	28	Why were these particular industries considered to be at risk? (Kristie L. Ebi, IPCC WGII TSU)	Are you giving us more pages to list methodologies?
533	50859	14	24	48	24	48	As is possible, it would be beneficial to indicate more precisely the nature of the risks evaluated in the citation provided--that is, risks of what? (Katharine Mach, IPCC WGII TSU)	We don't have the space - but see redraft.
534	53056	14	25	1	25	6	There also is uncertainty around mitigation. (Kristie L. Ebi, IPCC WGII TSU)	We didn't say there wasn't, but this is a chapter on adaptation.
535	45803	14	25	4	25	4	Business and industry are also awaiting stability in policy and regulations to support investments (Roger Street, UK Climate Impacts Programme)	Maybe
536	45170	14	25	6	25	9	Agreed. I would suggest broadening this beyond discussion of the Pilot Program for Climate Resilience to discuss much more how the Long Term Finance UNFCCC Workshop (see: http://unfccc.int/cooperation_support/financial_mechanism/long-term_finance/items/6941.php) and also High-level Advisory Group on Climate Financing report (see: http://www.un.org/wcm/webdav/site/climatechange/shared/Documents/AGF_reports/AGF%20Report.pdf) are discussing these issues, along with the proposed approaches outlined in papers above (box G3 above). (Karl Schultz, The Higher Ground Foundation)	Agree that much more can be said about finance for adaptation (& not just the private sector), but feedback at the author's meeting recommended that finance largely be dealt with in subsequent chapters
537	47694	14	25	12	0	0	Section 14.4.2.4. International Organizations and Institutions. It would be useful to include more detailed discussion of the need for trans-border adaptation strategies where ecological systems and the people who depend upon them straddle two or more national borders. The Ganges Basin is one good example but there are many more. It may be the case that adaptation strategies pursued by a national government has positive benefits for its citizens but negative ones for citizens in contiguous states. This can also be extended to development planning in general. For example, China and India share common rivers and are the regional hegemony. Smaller countries such as Nepal and Bangladesh are subject greatly to the hegemony's plans and actions. There needs to be a greater linkage at the national and local levels with what are essentially regional issues both in development and climate change terms. Each of the countries of the Ganges Basin have or are developing climate change strategies but they do not provide much space for trans-border cooperation within those strategies. In the Indian case, West Bengal's climate change strategy has nothing to say about cooperation with Bangladesh (and vice versa). (Bob Pokrant, Curtin University)	There is still a need to touch upon this example - will consider in redraft
538	45804	14	25	12	25	33	Not sure a sub-section on International Organisations and Institutions fits within a section on District, state and national actors. (Roger Street, UK Climate Impacts Programme)	Section restructured
539	47252	14	25	12	25	33	It could be important to also discuss the effect that the fragmentation of sources is having on addressing the adaptation needs of developing countries. Examples like those cited in this section often contribute to the fragmentation and limited coherence of adaptation support at the international level and the incoherence that trickles to the local level thereon. (Juan Hoffmaister, Third World Network)	Agree, but more an issue for Chpt 15
540	53057	14	25	14	25	23	WHO, FAO, and others engage in considerable capacity building. (Kristie L. Ebi, IPCC WGII TSU)	And many other things.
541	42918	14	25	25	25	33	Conservation NGOs also have a history of working in this space, particularly in the water sector see e.g: http://www.floatingforward.org/ , and also in partnership with the private sector see e.g: http://www.thewaterhub.org/ . In fact, this area of NGO-private sector partnerships for adaptation will be an interesting one to watch see e.g: https://www.arcticchome.com/web/index.html?wt.mc_id=IL-WWF (Cassandra Brooke, WWF-International)	Noted - considering for redraft
542	45805	14	25	32	25	32	The projects have the potential to provide co-benefits as suggested. (Roger Street, UK Climate Impacts Programme)	Point missed originally - ie 'potential'. Will include in redraft
543	41996	14	25	38	0	0	To answer this question, "yes", unless assessment is dealt with in another chapter, this needs at least a few paragraphs - there have been considerable advancements made over the years. I would also suggest that this section be added earlier in the chapter. I notice now that the "measurement" section appears at the end of the chapter. It seems better suited for the earlier portion of the chapter. (Nathan L. Engle, 2011-2012 AAAS Science and Technology Policy Fellow)	We have many requests to include things earlier! Any help on what to include later? Agree that this section is incomplete, but it has been redrafted.
544	45066	14	25	47	0	49	Now under challenge, see PROVIA 2012 (http://www.provia-climatechange.org/ABOUT/PriorityActivities/Activity4/tabid/55274/Default.aspx). Note the UNEP Handbook is not cited. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Fully agree - Awaiting a usable citation
545	48764	14	25	47	0	54	It is worth enhancing the important work of some private actors, mainly working in the infrastructure sectors (energy, railways), see Agrawala et al 2011 - Agrawala, S., et al. (2011), "Private Sector Engagement in Adaptation to Climate Change: Approaches to Managing Climate Risks", OECD Environment Working Papers, No. 39, OECD Publishing.) (ALEXIA LESEUR, CDC Climat Research)	Assume this comment is misplaced - but have included Agrawala cite in Private sector section
546	53058	14	25	49	25	49	Some are working on at least their 3rd national communication. (Kristie L. Ebi, IPCC WGII TSU)	Agree
547	53059	14	26	1	26	2	Also, some national communications have limited coverage of sectors. (Kristie L. Ebi, IPCC WGII TSU)	Agree
548	41172	14	26	12	0	0	Section 14.5.2 pg 26 line 12 – although a good section, I find the placement odd. Perhaps better placed in Ch 15 (Susan Evans, WWF-Canada)	Agree fully but the Bureau requires its treatment here
549	46078	14	26	12	27	33	NAPAS were already discussed in Chapter 2, line 40, page 31 to line 25, page 32. Seems to me they have had little practical value. (Luis E. Garcia, World Bank)	But we are required to deal with them in this chapter by the Bureau.
550	53060	14	26	18	26	18	A reference is needed. (Kristie L. Ebi, IPCC WGII TSU)	Text dropped and treatment moved to Chpt 15
551	53061	14	26	37	26	37	How many LDCs are there? (Kristie L. Ebi, IPCC WGII TSU)	Text dropped and treatment moved to Chpt 15
552	40266	14	26	37	26	38	This can be written as a footnote. (Haseeb Irfanullah, Practical Action)	Text dropped and treatment moved to Chpt 15

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
553	54618	14	26	41	0	0	A table could be a better way of highlighting the strengths and weaknesses of NAPAs (Monalisa Chatterjee, IPCC WGII TSU)	Text dropped and treatment moved to Chpt 15
554	53062	14	26	43	26	46	There also are cross-chapter issues and knock-on effects. (Kristie L. Ebi, IPCC WGII TSU)	Don't understand the point
555	41407	14	27	1	27	3	National Adaptation Plans (NAPs) are an evolution from the more short-term focused NAPAs. They are an increasingly important issue in the UNFCCC climate negotiations on adaptation. It would be good if this section could a bit more elaborate on those. One potential sources is this one which however is from before COP17. In COP17 an important decision was taken on NAPs incl. guidelines (see e.g. http://germanwatch.org/klima/ad-naps.htm for a literature). (Sven Harmeling, Germanwatch)	Agree, but outline explicitly mentions NAPAs and discussion moved to Chpt 15
556	46079	14	27	5	27	6	This contradicts SREX (IPCC 2012) (Luis E. Garcia, World Bank)	That is allowed, but text dropped.
557	53063	14	27	11	27	18	A range of sectors should be included. (Kristie L. Ebi, IPCC WGII TSU)	In a "For example,..." ??
558	40267	14	27	32	27	33	"Some problems innovative strategies": Example from Bangladesh can be given here. Despite being a LDC and submitting its NAPA as early as in 2005, Bangladesh prepared 'Bangladesh Climate Change Strategy and Action Plan' (BCCSAP) in 2008 and then revised it in 2009. The BCCSAP 2009, not the NAPA, is now the guiding document of Bangladesh's climate change funds (BCCTF and BCCRF) and national initiatives to tackle climate change impacts (see above comment on page 13). Ref. 1: 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. Ref. 2: see also (MoEF 2009) in the comment on page 15. (Haseeb Irfanullah, Practical Action)	Valid point - to be discussed in Chpt 15
559	47253	14	27	33	0	0	the phrase 'devise eleborte and innovative strategies' is not clear- what kind of strategies? This could be interpreted as developing countries having to invent something because the commitments under Art 4.4 of the UNFCCC are being ignored. (Juan Hoffmaister, Third World Network)	Text dropped
560	53064	14	28	2	28	14	Which sectors are involved? (Kristie L. Ebi, IPCC WGII TSU)	Text dropped
561	53065	14	28	18	28	23	Monitoring and evaluation should be discussed. (Kristie L. Ebi, IPCC WGII TSU)	Relevance to the paragraph?
562	43360	14	28	26	0	0	Section 14.6 has improved substantially, compared to the zero order draft. In the further process please ensure through proper coordination with the author teams of Chapter 15 and 16 that all types of "adaptation metrics" are properly discussed in this report. (Hans-Martin Füssel, European Environment Agency)	Noted and will follow up
563	54619	14	28	26	0	0	Section 14.6. The author may wish to discuss the findings from this section towards the beginning of the chapter to frame the concepts of needs and options. Moreover, a table summarizing all the metrics highlighting the strengths and weaknesses of each method will be useful. (Monalisa Chatterjee, IPCC WGII TSU)	Positioning noted - Table would be massive. I have a database of over 500.
564	45806	14	28	26	28	32	Would suggest starting with some reference to the reasons for measuring adaptation. this should include a reflection of why measurements are needed internationally, regionally and within nations. I would also suggest that there should be some reference to the role of qualitative measurement (e.g., storylines) as an alternative and supplement to quantitative measures (Roger Street, UK Climate Impacts Programme)	Noted and redrafted
565	46080	14	28	29	28	32	As it reads here, some have difficulties to identify differences between adaptation and development. This should be highlighted in the executive summary and conclusions of this chapter. This report makes an effort to treat this but in some of the detailed chapters still remain somewhat murky about this. Although some definitions are given along the different chapters of the report, maybe to include a glossary of important terminology would be useful (for example, the SREX report has a glossary annex). I feel it would also be useful to have a glossary in the report including important concepts such as Climate, Weather, Adaptation, Mitigation, Development, Sustainable development, Green growth, Climate variability, Climate change, Disaster risk management, Disaster risk reduction, Robust adaptation, Adaptive management, vulnerability, etc. (there are other of course, but these seem important to me for the purposes of this report). (Luis E. Garcia, World Bank)	Comments noted - but these go way beyond this chapter. Note that AR5 has a glossary etc
566	40908	14	28	31	28	32	While there is not commonly adaptation reference metric, some are being suggested. Human health is, for example, a primary standard by which sectors from energy to agriculture and more gauge their success and is possibly a usable adaptation reference metric. (Lynn Wilson, SeaTrust Institute)	Interesting suggestion and noted - but human health itself still has to be measured. It already plays a major part in 'adaptation' measurement. Will continue to consider possibility for redraft.
567	46081	14	28	37	28	52	This seems repetition. There was a whole section related to this (14.2.1.1 on pages 5 to 7 of this chapter) (Luis E. Garcia, World Bank)	Redrafted
568	40268	14	28	52	28	52	"...adaption..." should be "...adaptation...". (Haseeb Irfanullah, Practical Action)	Noted
569	41173	14	29	1	29	3	Section 14.6.1 pg 29 line 1-3 – the statement "...vulnerability (or resilience)..." insinuates that these are either the same or contrary, which is not the case. A lack of vulnerability does not mean a system is resilient, and a climate resilient system can still be vulnerable to other non-climate stressors. (Susan Evans, WWF-Canada)	Good point - this text dropped, but a longer discussion of resilience approaches in 14.6.1
570	35633	14	29	2	0	0	The second set proposed is 'measuring the process of implementation' (page 28, line 47). But here it is changed to 'measuring the effectiveness of implementation.' The two need to be consistent. Moreover, this is not discussed in Chapter 15. (Norio Saito, Graduate School of Science and Engineering, Ibaraki University)	Text dropped
571	45067	14	29	6	0	0	This whole section (14.6.2 and some of 14.6.3) is now rather out of date and also repetitive on 14.2.11 - see references there and the review in appendices to PROVIA 2012 op cit; not very useful; also see major critique by Hinkel 2011. This is all handled better in Chapter 16. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Agree that PROVIA work will change much of this area but still await a PROVIA publication. Hinkel included
572	46082	14	29	8	29	13	This seems repetition. There was a whole section related to this (14.2.1.1 on pages 5 to 7 of this chapter) (Luis E. Garcia, World Bank)	Much of the earlier text redrafted; text here shortened
573	53066	14	29	8	29	21	Much of this is repeated and, as noted earlier, is inconsistent with the SREX and the AR5 glossary. (Kristie L. Ebi, IPCC WGII TSU)	Do not see differences with AR5 glossary. SREX had a particular focus and will not always be fully overlapping with AR5

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
574	44396	14	29	14	0	21	This discussion on framing would be good to move upfront where different understandings of adaptation is presented. (Linda Sygna, University of Oslo)	Have tried to do this - please check new text
575	40909	14	29	26	0	0	See comment Chapter 14 p. 28 In 31-32 in response to Schroter et al reference and suggest adding a statement about potential broader metrics that might be applicable, following the author's comment on applying the caution on metrics of vulnerability across places, groups and sectors. (Lynn Wilson, SeaTrust Institute)	Have added qualifications
576	40269	14	29	30	29	31	"It has many contexts.": Mentioning of the "From Vulnerability to Resilience Framework" or "V2R Framework" of Practical Action is appropriate here. This has identified four major elements, namely i) preparedness against hazards and stresses, ii) adaptive capacity against future uncertainties, iii) livelihoods diversity and security, and iv) strong governance or enabling environment in a resilience framework. Here resilience of a community has been defined as its ability to manage risks, adapt to changes and secure sufficient food. Ref.: Pasture, K. 2011. From Vulnerability to Resilience: A framework for analysis and action to build community resilience. Practical Action Publishing Ltd., Rugby, UK. 113 pp. (Haseeb Irfanullah, Practical Action)	Thank you - was looked at for a draft discussion of vulnerability & resilience but that was ultimately not-included. Will seek to include reference in final draft.
577	41174	14	29	35	29	37	Section 14.6.2 pg 29 line 35-37 – Christie P, Sommerkorn M. 2012. RACER: Rapid Assessment of Circum-arctic Ecosystem Resilience, 2nd Ed. Ottawa, Canada: WWF Global Arctic Programme. 72 p. - This reference to an approach for assessing resilience in the Arctic. In a sense it makes an attempt at defining metrics for identifying ecological resilience. (Susan Evans, WWF-Canada)	Seems more appropriate for ecosystems chapter
578	41175	14	29	40	29	44	Section 14.6.2 pg 29 line 40 to line 44 – this paragraph is very confusing, clarity needed. (Susan Evans, WWF-Canada)	Noted & redrafted 14.6.1
579	48915	14	29	41	29	42	increasing adaptive capacity within the context of biophysical & socio economic stressors' - suggest add dealing with overcoming cognitive (or psychological) constraints (Leon Soste, Department of Primary Industries, Victoria, Australia)	Don't understand how this fits here
580	43361	14	29	46	29	52	Please consider and cite the following publication (either here, or in Section 14.6.3.2): Hans-Martin Füssel, Stephane Hallegatte, and Michael Reder: International Adaptation Funding. Chapter 29/pp. 311-330 in: O. Edenhofer, J. Wallacher, H. Lotze-Campen, M. Reder, B. Knopf, J. Müller (Eds.): Climate Change, Justice and Sustainability - Linking Climate and Development Policy. Springer, 2012. ISBN 978-94-007-4539-1 (Hans-Martin Füssel, European Environment Agency)	Still need to access this publication - will consider for final draft
581	48765	14	30	14	0	36	it could be useful to detail these five indicators, as they seem to be very relevant. Moreover, one could add the vulnerability metrics developed in several guidelines for or by cities (see city of Port Philipps, Norfolk, etc. and tools developed by Ouranos and UKCIP, etc.) (ALEXIA LESEUR, CDC Climat Research)	Space limits precludes this - it has been shortened even further
582	41176	14	30	16	30	35	Section 14.6.3.1 pg 30 line 16 to line 35 – I don't find this section illuminating. Elaborating, for example, to explain the premise of the vulnerability metrics cited (e.g. Moss, 2001; Moss to appear) and highlight specific commonalities or differences amongst methods would be more informative than an enumerating the degree of overlap. (Susan Evans, WWF-Canada)	Space limits precludes this - it has been shortened even further
583	41117	14	30	18	30	19	Another review of vulnerability metrics that may be worth adding is: BARNETT, J., LAMBERT, S. & FRY, I. 2008. The Hazards of Indicators: Insights from the Environmental Vulnerability Index. Annals of the Association of American Geographers, 98, 102-119. (Colette Mortreux, University of Melbourne)	Considered but not incorporated at this stage
584	40910	14	30	37	0	0	Add a section on understanding indices and indicators: what they do and do not do. Then, consider translating indicators and indices to guidance for 1)decisions and 2)action at different scales and conditions. (Lynn Wilson, SeaTrust Institute)	Not certain what is being called for
585	45171	14	30	38	32	3	Note that a vulnerability reduction credit (see Schultz, K., (2012), "Financing climate adaptation with a credit mechanism: initial considerations", Climate Policy Vol. 12, Issue 2, 2012, pages 187-197. http://www.tandfonline.com/doi/abs/10.1080/14693062.2011.605563 Also see concept further developed, including discussing of normalizing approach to account for development levels at http://ecology.wikia.com/wiki/Vulnerability_reduction_credit This approach also is useful for prioritizing projects and, as it is an outcome-based approach, may ensure sustainability of project. (Karl Schultz, The Higher Ground Foundation)	I don't see how the VRC concept fits here
586	50860	14	31	4	31	4	Does the author team here intend "human development index"? (Katharine Mach, IPCC WGII TSU)	Fixed
587	48157	14	31	5	0	0	What is meant by "climate related" disasters? Climate typically is a 30 year average. Do you mean "weather related" or are you referring to "climate variability"? (Jochen Harnisch, KfW)	Noted and agree, but text dropped
588	40911	14	31	11	0	0	Question: why did the PPCR choose an approach that did not choose to use an indicator and is that related to the other international funding mechanisms' not yet adopting indicators or are these separate points? (Lynn Wilson, SeaTrust Institute)	I (Ian Noble) could draft a long discussion here - but it is not backed by even 'grey literature'
589	45068	14	31	16	0	21	Note critique in Hinkel 2011 (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Included - maybe needs more coverage, but hoping PROVIA text becomes available
590	45069	14	31	27	0	30	See also 6 purposes in Hinkel 2011 (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Included
591	45070	14	31	37	0	43	see discussion in UK Climate Adap S/Ctee 2011/12 etc and background studies (UK Adaptation Sub-Committee Progress reports 2011, 2012, and AEA Technology reports to them in 2011 and 2012, all via: http://www.theccc.org.uk/) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Noted, but not included in shortened text. The broader process of M&E is considered to be part of Chpt 15
592	45807	14	31	37	31	43	May wish to also look at developments in the area of practicing monitoring and evaluation (e.g., see http://www.ukcip.org.uk/wordpress/wp-content/AdaptME/AdaptME.pdf and http://www.wri.org/publication/making-adaptation-count) (Roger Street, UK Climate Impacts Programme)	Noted, but not included in shortened text. The broader process of M&E is considered to be part of Chpt 15
593	41177	14	31	41	31	43	Section 14.6.3.3 pg 31 line 41-43 – some actions to build capacity reduce vulnerability, so please be more specific with this statement. (Susan Evans, WWF-Canada)	Text dropped
594	48158	14	32	6	32	30	What is meant by "validation of metrics"? Is it really possible to validate them? Shouldn't one better talk about "calibration" or "application of metrics to historical data sets and events"? (Jochen Harnisch, KfW)	Point noted. But have maintained the term after discussion with other authors
595	45072	14	32	8	0	0	Insert 'to' after 'subject' (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Noted

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
596	45071	14	32	8	0	12	See Hinkel 2011 (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Included
597	45073	14	32	14	0	30	These are rare examples of validation, see Hinkel 2011, and more notable as exceptions than as examples of common practice- I think it is the rarity which should be the main point here. (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Isn't rarity demonstrated by the paucity of examples
598	41997	14	32	15	0	0	I believe this reference should be for 2005. (Nathan L. Engle, 2011-2012 AAAS Science and Technology Policy Fellow)	Fixed in references- (but see that it was missed in text - will fix)
599	48772	14	32	33	0	46	I don't see the specific point of this paragraph and I think it can be incorporated earlier (maybe p 28-29) (ALEXIA LESEUR, CDC Climat Research)	Considered repositioning but decided to leave where it is as an end piece
600	48773	14	32	48	0	51	This section is interesting but I would suggest adding a sentence explaining why this concept of maladaptation can be useful (e.g.; to avoid firstly maladaptation, before trying to adapt) (ALEXIA LESEUR, CDC Climat Research)	Don't fully follow the point. Please review the new draft
601	40300	14	32	48	34	44	This is a very strong section on maladaptation (John Sweeney, National University of Ireland Maynooth)	Noted
602	44841	14	32	48	34	44	General Comments on Maladaptation Section. I found the section on maladaptation to be disappointing. The literature on maladaptation is often value laden and superficial because it is lacking in critical thinking. After reading the section, I do not understand what is maladaptive and what is not. I urge the chapter authors to take a critical examination of maladaptation. One of the main problems with the literature on maladaptation is that it often takes a climate change only perspective to examine adaptations and does not put such adaptations in a larger context. I agree that, everything being equal, increasing exposure or sensitivity to climate variability or change can be a maladaptation. The question is "is everything else equal." Total costs and benefit or risks and benefits should be considered. In general, many decisions have consequences and costs. Decisions create winners and losers. If these are the criteria that make decisions maladaptive, then civilization has been maladapting since it began. (Joel Smith, Stratus Consulting Inc.)	Noted and comments used as basis for extensive redraft
603	52774	14	32	50	0	0	Section 14.7.1. If the concept has not been defined at more length until this point (and I would recommend that it should be), a more comprehensive discussion should be included here. The 5 dimensions identified by Barnett and Adger are only briefly listed. (Tim Rayner, University of East Anglia, Tyndall Centre for Climate Change Research)	Removed heading ("defining") and replaced by new discussion. More extensive discussion of Barnett work included
604	41178	14	32	52	0	0	Section 14.7.1 pg 32 line 52 - this characterization of maladaptation does not include consideration of when an adaptive action for one sector results in increased vulnerability for another sector, (e.g. dam implemented as a flood control measure impacts fish population by altering stream flow and temperatures. The need for a multi-sectoral, multi-scalar approach does seem to be captured in Section 14.7.2.1 pg 33 line 44 so should also be reflected here. (Susan Evans, WWF-Canada)	Agree with point - See redraft
605	44842	14	32	54	33	2	The example of the improved road to a vulnerable area seems superficial. What if the road enables vulnerable populations to more efficiently and safely evacuate the vulnerable area when it is threatened with extreme events? Might that not reduce vulnerability. (Joel Smith, Stratus Consulting Inc.)	Noted and comments used as basis for extensive redraft
606	52115	14	33	2	33	9	In discussing the term "maladaptation" the chapter team should also cross-reference the entry for the term in the report glossary. (Katharine Mach, IPCC WGII TSU)	Noted
607	50861	14	33	6	33	7	The author team is encouraged to consider and cross-reference the glossary entry for maladaptation in the WG2 AR5 glossary. (Katharine Mach, IPCC WGII TSU)	Noted again
608	48774	14	33	11	0	15	The concept of resilience (see Engle 2011) can be added, also to define maladaptation. (ALEXIA LESEUR, CDC Climat Research)	Don't follow the point
609	39180	14	33	11	33	13	more emissions due to air conditions seems to me rather like a conflict with mitigation rather than maladaptation (Christopher Reyer, Potsdam Institute for Climate Impact Research)	Included more discussion of this point - please check redraft
610	44843	14	33	11	33	14	The five types of maladaptation offered by Barnett and O'Neill appear to me to be superficial and not carefully thought through. Using air conditioning to offset higher temperatures is often mentioned as a maladaptation. What is the alternative? Isn't it of higher value to protect human health and life than to limit some emissions of greenhouse gas? Claiming that this is a maladaptation is equivalent to stating that any greenhouse gas emissions cause such high damage, it is worth increasing risks to human health. What is the paradigm that is used to judge this? Certainly, not benefit-cost analysis. With regard to the other mentioned aspects of maladaptation: equity is a desirable goal, but is it a priori, a maladaptation to favor the less vulnerable. Exactly what does this mean? Is helping the most productive farmers adapt to a change in climate a maladaptation if the least productive farmers are not made more productive? What if the most productive farmers produce enough additional food to feed all? What is meant by high opportunity costs and why is that necessarily a maladaptation? What does it mean to limit future choice? Doesn't development limit future choices in some ways, but it can also increase the determinants of adaptive capacity. This is an example of where the chapter can take a more critical view of the literature on maladaptation. (Joel Smith, Stratus Consulting Inc.)	Noted and comments used as basis for extensive redraft
611	41118	14	33	15	33	15	You could include here a discussion about discerning the difference between maladaptation and the limits of adaptation. There is an upcoming publication that might help: Barnett, J., Mortreux, C. and Adger, W.N. (in press) Barriers, Limits, and (Mal)Adaptation: cautionary notes', in Palutikof, J., Karoly, D. and Boulter, S. (eds.) Natural Disasters and Adaptation to Climate Change'. Cambridge University Press, Cambridge: in press (accepted 27 October 2011). (Colette Mortreux, University of Melbourne)	Reference not seen as yet
612	48775	14	33	17	0	53	This part is not very clear (ALEXIA LESEUR, CDC Climat Research)	No clear what is not clear - but section has been redrafted
613	45808	14	33	17	33	39	It would be useful to recognise that one of the causes of maladaptation is ill-informed autonomous adaptation (i.e. not all autonomous adaptation is appropriate / successful) (Roger Street, UK Climate Impacts Programme)	Point noted, but there are many uses (and abuses) of the term autonomous adaptation (including in AR5 drafts). Please check to see if the process is covered in the redraft.

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
614	37731	14	33	20	33	21	I don't think that the construction of "hard" infrastructure may reduce flexibility. Especially in the urbanized areas, the impediment is the existence of dense population and concentrated economic activities, not the construction of "hard" infrastructure. (Tsuneyoshi Mochizuki, Japan River Association)	The text says "may reduce"
615	46083	14	33	21	33	21	It would be useful to explain the context of OECD's conclusion. Seems like a too general blanket statement as it is. (Luis E. Garcia, World Bank)	Point noted, but space precludes greater elaboration
616	53067	14	33	30	33	39	Health should be included. (Kristie L. Ebi, IPCC WGII TSU)	Can you provide a good example?
617	54620	14	33	42	0	0	Section 14.7.2.1. The author team may wish to add some categories identifying types of maladaptation and provide more examples for each of these categories. (Monalisa Chatterjee, IPCC WGII TSU)	Noted and will continue to consider
618	45074	14	33	46	0	48	Good example, but awkwardly expressed... (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Text redrafted
619	44844	14	33	49	33	52	The assertion is made that the desalination plant is a maladaptation because it damage aboriginal sites and raise water tariffs. Those may be sufficient to make the investment unwise. (I am surprised the increased energy use from desalination was not mentioned.) But, the benefits of desalination – supplying water, particularly during droughts when the marginal value of water is higher than in wetter periods – do not appear to be considered. These need to be compared to the costs before dismissing the plant as a maladaptation (Joel Smith, Stratus Consulting Inc.)	Noted and comments used as basis for extensive redraft
620	54621	14	34	7	0	0	The author team may wish to incorporate the discussion on adaptation deficit in the discussion defining adaptation needs and options. (Monalisa Chatterjee, IPCC WGII TSU)	I don't see the context
621	45172	14	34	7	34	16	Note that approach referenced immediately above normalizes for adaptation deficit, and that climate vulnerability reduction is based on the climate-specific vulnerability as determined by baseline assessment of climate change using downscaled climate modeling and sector-specific vulnerability assessment and vulnerability reduction assessment. (Karl Schultz, The Higher Ground Foundation)	Don't understand the point being made
622	41408	14	34	9	24	16	As this section deals with the adaptation deficit it is recommended to mention that the world has a tremendous adaptation deficit which needs to be tackled as soon as possible to prevent dangerous effects of climate change. (Sven Harmeling, Germanwatch)	Policy prescriptive? And taken up in Chpt 17
623	52116	14	34	9	34	10	For discussion here of the concept of "adaptation deficit," the author team should consider cross-referencing the entry for the term in the report glossary. (Katharine Mach, IPCC WGII TSU)	Noted
624	50862	14	34	10	34	10	The intended section reference should be supplied. (Katharine Mach, IPCC WGII TSU)	Noted
625	45075	14	34	12	0	16	But important to reduce it in a non-maladaptive way, see Palutikof et al forthcoming ('Challenge 4' and Fig 8 in The past, present and future of adaptation: setting the context and naming the challenges, Chapter 1 in Palutikof et al 2012, Climate Adaptation Futures, Wiley:UK,) (Mark Stafford-Smith, Commonwealth Scientific and Industrial Research Organisation)	Noted and comments used as basis for extensive redraft
626	52775	14	34	19	0	0	Section 14.7.3. There should be some discussion of the potential for impact assessment instruments including EIA and SEA. Some have suggested that in order to avoid maladaptation, those conducting EIA and SEA should include a 'worst case' climate scenario to draw it to the attention of decision makers. (Tim Rayner, University of East Anglia, Tyndall Centre for Climate Change Research)	Good point - but this is more for Chpt 15
627	46084	14	34	28	34	30	The problem with this is that we'll spend in many uncertain things while neglecting needed development which in turn will be counterproductive top adaptation. It also contradicts what is said on page 35, lines 3 to 14 and 27 to 33. (Luis E. Garcia, World Bank)	See redrafted text
628	41179	14	34	39	34	44	Section 14.7.3.2 pg 34 line 39 – 44. This section is rather sparse and could benefit from expansion or linkage to other chapters (such as chapter 2 on decision making), as avoiding maladaptation will be influenced by the framing of the 'problem-space', and the interdisciplinary nature of the decision making environment (how wide do you cast the net in assessing impacts, risk, vulnerability and adaptation options – is there a focus on social, economic and environmental needs in silos or is an integrated social-ecological perspective taken). Some of this is referenced in the previous section (14.7.3.1), so perhaps these sections should be merged. (Susan Evans, WWF-Canada)	See redrafted text
629	43237	14	34	47	0	0	section 14.8, text related to research gaps and data gaps is missing (Muhammad Zia ur Rahman Hashmi, Global Change Impact Studies Centre)	Noted - and stated in text
630	41409	14	34	51	34	51	Please add a conclusion. (Sven Harmeling, Germanwatch)	Will be considered
631	40934	14	35	3	35	14	The redefinition of autonomous adaptation (and in line 30 below) is both at odds with common usage in the literature and in past IPCC reports, including the TAR and AR4. It also directly contradicts the usage in Chapter 17, where autonomous is used synonymously with 'private' to refer to adaptation that will be undertaken by parties without changes in government policies or investment (p.5). Moreover, this radical redefinition of autonomous adaptation seems entirely unnecessary here as autonomous adaptation is not referred to in the chapter except in the FAQs. (Frances Moore, Stanford University)	This is the problem with the term "autonomous adaptation" - its use has been totally inconsistent. The chpt 17 is yet another example. Please check the revised text
632	48159	14	35	5	35	25	Even if this is presented as an already established definition - what is meant by "to actual or expected climatic stimuli"? I found past definitions using the expression of "impacts of climate variability and anticipated climate change" much less vague and more useful. The combination of both terms into "climatic stimulus" I see as the result of politically motivated relabelling effort. IPCC should not follow this without very good scientific justification. (Jochen Harnisch, KfW)	Point noted, but agreement on a definition of adaptation involved many contributors and is somewhat contentious
633	40935	14	35	21	35	25	Adapting to climate change is also different from adapting to climate variability because of the directional nature of climate change. Some actions could be considered adaptive only in the presence of a secular change in mean climate such as heat-tolerant crop varieties that have a lower yield in cooler temperatures. (Frances Moore, Stanford University)	Text dropped
634	52863	14	35	21	35	25	This FAQ should cover the practical as well as the conceptual - e.g. managing current climate risks generally provides the most appropriate preparation for managing future climate risks (John Hay, University of the South Pacific)	Text dropped

#	ID	Ch	From Page	From Line	To Page	To Line	Comment	Response
635	46085	14	35	21	35	41	FAQ 14.2 to 14.4 are good questions and the corresponding discussion would be useful to have upfront at the beginning of this chapter (Luis E. Garcia, World Bank)	Text dropped
636	53068	14	35	24	35	25	Please consider whether filling the adaptation deficit always is adapting to future climate change. (Kristie L. Ebi, IPCC WGII TSU)	Text dropped
637	40270	14	35	25	0	0	"(14.7.3.1)" should be "(14.7.2.2)". (Haseeb Irfanullah, Practical Action)	Text dropped
638	44397	14	35	27	0	33	And the other way around, persuing adaptation without looking at development priorities will result in societies mainly concerned with responding to impacts and not reducing vulnerability. (Linda Sygna, University of Oslo)	Noted. Text changed - please check new version
639	48160	14	35	27	35	33	I find this answer unsatisfactory. What you are in fact saying, I believe, is that "adaptation to climate change" should generally be subsumed under good development planning. The text currently tries to avoid making this politically contentious conclusion explicit. IPCC should stick to its scientific mandate and use as precise language as possible. (Jochen Harnisch, KfW)	I do not think the text says adaptation should be subsumed under development, but please check redraft
640	52864	14	35	35	35	41	Consider referring to DRR, not DRM; comments still apply; as there is no reference to the relief and recovery aspects of DRM, it is preferable to refer to DRR, not DRM (John Hay, University of the South Pacific)	Text dropped
641	41423	14	35	40	35	40	It is suggested to add other slow-onset processes here, such as sea-level, ocean acidification, salinisation etc. which are not perceived as disasters. (Sven Harmeling, Germanwatch)	Text dropped
642	52865	14	37	0	0	0	Referenes A source of relevant information 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)	Considered, but most DRM discussion dropped
643	53954	14	51	0	0	0	Table 14-1: An explanatory caption should be provided (i.e., selection of indicators for what?). It is not quite clear how to interpret the second column (criterion) in relation to the first column. If I am I reading correctly, if I say that there are three criteria (Relevant, Responsive to changes, High information content) used to describe different TYPE of (?? the drivers of vulnerability) is that correct?? This table may benefit from the addition of a column on the left to list examples under these criterion described. (Yuka Estrada, IPCC WGII TSU)	Thanks - Will work on the presentation of the information
644	53955	14	52	0	0	0	Figure 14-1: As it is presented, the information provided in this figure can be and may be better presented as a table. Although this by itself may not be a bad figure to have, given that figures are often used (by authors, readers, and media alike) to summarize and/or provide the framework of given topic or chapter, authors may wish to ask if it is ok to have this particular figure as the only figure in the chapter. Having said that, I would like to invite the author team to develop figure(s) that could further elaborate and illustrate the concepts of this chapter perhaps by including other players and/or more process aspects that could lead to actual decision making in adaptation planning etc. (Yuka Estrada, IPCC WGII TSU)	More tables have been added