

IPCC SRCL First Order Draft Review Comments and Responses - Chapter 7

Comment No	From Page	From Line	To Page	To Line	Comment	Response
3408	0	0	0	0	By collecting and retrieving information from countries like Iran, Russia, Saudi Arabia, etc., with field research, which, given the size and type of land and the type of climate they dominate, are major and effective countries in the ecosystem, more problems can be found. Have discovered and found better solutions to prevent the negative impacts of human anticlimatic activities, including irregular water withdrawals and land use change changes, etc. The implementation of these solutions also depends on the participation of all, A global negative, which every region can have an impact on the entire world. [Hanieh Zargarlellahi, Iran]	Noted. Case studies added.
3792	0	0	0	0	This chapter could do with screening for focus - land-climate interactions and the SD interface. It starys much wide in places [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Accepted. Text is revised
3794	0	0	0	0	Please keep an eye out for consistent referencing, especially to previous IPCC reports. Can't just refer to AR5 in a reference - which WG report and preferably even page no. In the reference list, full citation as in the title page for each chapter [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Noted. References rechecked
3796	0	0	0	0	Chapter 5 refers to systemic risks related to food price spikes - didn't see that covered here. [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Accepted. Included in the ENSO box. Also please see Ch 5 and Ch 6 of this report
20182	0	0	0	0	The risk equation of "risk = probability x consequences" necessitates to know probability of the events to exist and severity of their consequences. The risk management needs determining the probability of an event; say climate change (a 10% increase in aridity index), to happen and its severity of its impact on food security across different scales. This approach needs a more quantitative approach to the problem. Net results of feedbacks and interactions among the variables and drivers should be evaluated quantitatively. Quantitative approaches such as the "system dynamics" (Stella) may be used to test scenarios, projections, and forecasts in this regard. Socio-economic, cultural, and political aspects of the risk management may be covered in more detail. We are not sure how increased risk of food insecurity will cause what kind of political conflicts within and between the nations. Will nations be more collaborative or conflictive under changing climate? Will climate change fuels conflicts between different religions and different cultures? In addition, the change of consumer behavior (e.g., shifting from more meat to more vegetables) may not be adequate to ensure food security, worldwide. "Produce more to consume more- consume more to produce more, and grow further and further economically", vicious circle of wild capitalism should be criticized for a sustainable and balanced food supply between nature and human need. Also, collaboration of cultures and religions for mitigation and adaptation of climate change, land degradation and desertification is necessary to decrease conflicts and increase co-benefits, such that the resources wasted in conflicts can be used to mitigate and adapt climate change measures. Some monumental resources of the world, such as mango forests, tropical forests, and so on, may be declared "common resources of planet", and ecosystem services of these resources may be paid to the people or nations where the resources are located, from a worldwide fund under the governance of UN. [Sabit Erşahin, Turkey]	Rejected IPCC definition of risk used.

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18524	0	0			The chapter authors should consider consulting the following references from FAO relevant to the chapter, namely: 1) FAO. 2017. The future of food and agriculture - Trends and Challenges. Available at http://www.fao.org/3/a-i6583e.pdf ; 2) FAO. 2017. Migration, Agriculture and Climate Change - Reducing vulnerabilities and enhancing resilience. Available at http://www.fao.org/3/l8297EN/l8297en.pdf ; 3) OECD/FAO. 2018. Food security and nutrition: Challenges for agriculture and the hidden potential of soil - A report to the G20 Agriculture Deputies. Available at http://www.fao.org/3/CA0917EN/ca0917en.pdf ; 4)FAO/OECD. 2012. Building resilience for adaptation to climate change in the agriculture sector. Available at http://www.fao.org/docrep/017/i3084e/i3084e.pdf [Aziz Elbehri, Italy]	Noted and consulted
3414	0				Sentences are complicated. Summary needs revision based on a clear structure and approach throughout the whole document. The text should and could be shortened, based on a more concrete concept (as mentioned already in comments on (1) and elsewhere in the texts. [Cordula Ott, Switzerland]	accepted and revised.
3416	0				the summary is not specifically referring to the argumentation of the 2030 Agenda and related assessments and reports; that is: the higher uncertainty and risk, the more normative decisions are necessary... From such an approach results the major question how and by whom decisions can be made. And results of the whole IPCC report should be around the issue: what works in this science-society interface in tackling the complexity, the interlinkages of chosen topics. This summary should be very clear in regard of : What is at stake? What are challenges and or where do pathways emerge in the interlinks? What roles do different actors (science, governments, business, civil society, local communities..) play? How deal with complexity? with context-dependency? How to proceed? How to approach coherence? ... [Cordula Ott, Switzerland]	accepted and revised in 7.3
3418	0				In general the summary should express results of (7) and also build on previous chapters. But it illustrates that the rationale of societal decision-making is not thoroughly prepared in several chapters): how to deal with complexity and uncertainty / where and how to find solution ==> in societal processes and adaptive procedures Summary and the text should build on the need to organize societal processes in which to tackle uncertainty and risks, and formulate policies. (Thus, the previous chapters have to be revised too, especially in regard of conceptualizing the science-society(-policy) interface. (a claim shared by the 2030 Agenda) Elements for inclusive processes are spread all over the paragraphs, but are not explicit enough. [Cordula Ott, Switzerland]	Noted and taken into account
3420	0				The authors propose a better integration of social science ... but in the document at hand, the fundus of social science and especially the progress in transdisciplinary approaches need better to be taken into account. This would strengthen the concept and line of argumentation towards societal processes (key in the 2030 Agenda, too).So at the end, it becomes obvious, why and how joint processes result in effective approaches towards a sustainable world. Then we can concentrate on what works in this interaction... [Cordula Ott, Switzerland]	Accepted. 7.6

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3514	0				(7) illustrates that the step from a scientific assessment to an operational concept on science-society interaction for future forming is difficult. It implies the creation of common vision, goals, pathways, risks to take. It encompasses joint dealing with complexity, insecurity, chaos, unknown unknowns, normativity..etc.) . A major problem lies in the fact that (scientific; quantitative) evidence is much easier to provide. But we need adaptive, iterative, inclusive procedures. The IPCC report in general is still struggling with making clear normative statements on how to proceed. Although the AfAgenda 2030 is preparing the ground for it! Normative positioning would allow for a new framing of response options. It would foster the investigation of what works at the science-society interface in tackling the challenges of the complexity and threats at hand. [Cordula Ott, Switzerland]	Accepted. 7.6
26062	0				There is a lack of good examples regarding the specific land challenges, especially in the conceptual part at the beginning. In general, the land challenges under climate change are not properly addressed but the text stays on a general level, e.g., on natural resource management etc. [Hans Poertner and WGII TSU, Germany]	Accepted. Covered in other chapters and boxes
26064	0				There are rather few explicit policy/governance options regarding desertification discussed [Hans Poertner and WGII TSU, Germany]	Accepted. Thank you
26066	0				Suggest to make use of case studies [Hans Poertner and WGII TSU, Germany]	Accepted. Thank you
26068	0				There is a lack of cross-references to other SRCL chapters [Hans Poertner and WGII TSU, Germany]	Accepted. Added cross-references as suggested and also note that the Burning Embers figure is not based on references from other chapters
26070	0				There is partly prescriptive language, such as 'there is a need to...', 'it is required..!', 'must include...' [Hans Poertner and WGII TSU, Germany]	Accepted. Edited
20554	0				2. In Section 7.4, we need an analytical framework for the decision-making process. Under this framework, we can rearrange all relevant chapters after 7.4.5 according to the logic of decision-making. We can also list the problems that arise during the execution of the decision-making process, and put them in section 7.5, and finally propose governance tools for the problem in the framework of the decision-making process. [Huai Jianjun, China]	accepted and analytical pathways group. 7.5
20556	0				3. the repetition and overlap occur here, similarly to the previous chapter [Huai Jianjun, China]	accepted and revised
594	0				It would be great to include in the next version some examples of the application of dynamic adaptation pathways and what key requirements are for to use such approach. [Klaus Radunsky, Austria]	Accepted. This is covered in Section 7.5
16166	0				The chapter is hard to understand and to follow. While the outline of the chapter seems to follow a logical order, the paragraphs and the sentences inside the paragraphs often read misconnected, irrelevant to objective and frame of the Chapter and are formulated in a rather complicated way. [Lorenzo Giovanni Bellù, Italy]	Accepted. Text is revised in the next round
16168	0				The chapter feels like repeating in several instances content touched upon in previous chapters, which feels confusing for the reader. There is overlap and repetition between chapters 6 and 7 but not only. For example: topics handled in section 7.3.3 are also discussed in chapter 5 (see for example section 5.9), policies listed in Table 7.2 are also discussed in Section 5.9. It is more clear for the reader if you consolidate everything you write for one topic in one place and not throughout the report, which creates unnecessary duplications. [Lorenzo Giovanni Bellù, Italy]	Accepted. As suggested, we have addressed the overlaps with the other chapters

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16170	0				In this chapter missing references include: 1) FAO. 2017. The future of food and agriculture - Trends and Challenges. Available at http://www.fao.org/3/a-i6583e.pdf ; 2) FAO. 2017. Migration, Agriculture and Climate Change - Reducing vulnerabilities and enhancing resilience. Available at http://www.fao.org/3/i8297EN/i8297en.pdf ; 3) OECD/FAO. 2018. Food security and nutrition: Challenges for agriculture and the hidden potential of soil - A report to the G20 Agriculture Deputies. Available at http://www.fao.org/3/CA0917EN/ca0917en.pdf ; 4)FAO/OECD. 2012. Building resilience for adaptation to climate change in the agriculture sector. Available at http://www.fao.org/docrep/017/i3084e/i3084e.pdf [Lorenzo Giovanni Bellù, Italy]	Accepted.Missing references added
9664	0				The concept of resilience should be treated more systematically as it is very important component of adaption and sustainable development. It should be visible as a separate subchapter, for instance in a new chapter 7.3.6. Some references were already mentioned above: REF: Speranza, C. I., Wiesmann, U., & Rist, S. (2014). An indicator framework for assessing livelihood resilience in the context of social–ecological dynamics. <i>Global Environmental Change</i> , 28, 109-119. REF Jacobi, J., Schneider, M., Bottazzi, P., Pillco, M., Calizaya, P., & Rist, S. (2015). Agroecosystem resilience and farmers' perceptions of climate change impacts on cocoa farms in Alto Beni, Bolivia. <i>Renewable Agriculture and Food Systems</i> , 30(2), 170-183. REF: Jacobi, J., Schneider, M., Pillco Mariscal, M., Huber, S., Weidmann, S., Bottazzi, P., & Rist, S. (2015). Farm resilience in organic and nonorganic cocoa farming systems in Alto Beni, Bolivia. <i>Agroecology and Sustainable Food Systems</i> , 39(7), 798-823. REF: Altieri, M. A., Nicholls, C. I., Henao, A., & Lana, M. A. (2015). Agroecology and the design of climate change-resilient farming systems. <i>Agronomy for sustainable development</i> , 35(3), 869-890. REF: Tanner, T., Lewis, D., Wrathall, D., Bronen, R., Craddock-Henry, N., Huq, S., ... & Alaniz, R. (2015). Livelihood resilience in the face of climate change. <i>Nature Climate Change</i> , 5(1), 23. [Markus Giger, Switzerland]	Accepted. Added to chapter where appropriate.
9668	0				Policy coherence: the outline of this report aims to assess risk and decision making in relation to sustainable development in this chapter. Therefore in my view this chapter should provide a synthesis bringing together the risks related to desertification, land degradation and food security in view of sustainable development. This should include the discussion of contractions and trade-offs with the overall development trends for the future. Hence the question of policy coherence. How can the land sector be governed sustainably when the global economic system is deeply unsustainable? How can the samll farmers in the south be supported to implement mitagation or adaption when the agricultural policies in the North are detrimental to their aspirations? Or when the fisheries on the coast of Africa are destroyed by fishing fleets from the North? This report does not discuss such issues at all. The need for a real transformation of the global economy should become apparent from this chapter. The previous chapters have basically shown the high uncertainties and huge barriers to address the issues within the land sector (despite some co-beneficial strategies that do exist).In its present form the chapter, besides its very valuable discussion of of many issues, does not yet fully address the challenges for the land sector that relate to its embedding in an overall economic system that is unsustainable. [Markus Giger, Switzerland]	Accepted. Chapter 6 addresses this comment

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6000	0				Incomplete chapter, figures and captions are missing, introductions of many sections are also missing [Mohamed El Raey, Egypt]	Accepted
14670	0				An appropriate land use and farming system for the harsh and fragile drylands is the one able to produce a minimum assured agronomic yield in a bad season (low rainfall, heat wave) than a high but uncertain yield in a good season (high rainfall). Similarly, appropriate indicator(s) of soil functionality are the parameters which increase the storage of plant available water reserves (green water) in the root zone. Important among these are soil organic matter content, clay+fine silt content, effective rooting depth, water infiltration rate and amount and strength of stable aggregates. Productivity and sustainability of agroecosystems must be assessed in terms of kg grains/mm of water. Specific and detailed comments from UNCCD-SPI are outlined below [Rattan Lal, United States of America]	Accepted. Ch 3
1446	0				Why the focus on land-climate --- without a focus on food? While land is a key element in providing food, food policy in a climate sense (and as per other chapters) would encompass consumption patterns, particularly given shifting diets toward more animal-source foods and the challenge of food waste. Food security is addressed in some sub-sub sections. However, the focus of other chapters on food systems opens up opportunity to discuss policies that impact on demand for food (and the resulting land use), etc. [Tonya Rawe, United States of America]	Accepted. New section added
21770	1	1	1	2	Delete RISK MANAGEMENT [Manuel Cesario, Brazil]	Rejected. This was part of the approved chapter outline
25394	1	38	1	39	include the box number here [Rebecca Teasley, United States of America]	Accepted and revised accordingly.
25392	1	1	7	10	Make the executive summary in the same order as the document. [Rebecca Teasley, United States of America]	Noted and revised accordingly
25412	1	1	7	10	Be sure to include fires cascading multihazards in the executive summary. [Rebecca Teasley, United States of America]	Noted and revised accordingly
17648	1		71		1. Chapter Boxes seem to have no in text references [Paul Hudson, Germany]	Accepted and revised
27240	1				The coherence of the chapter would significantly benefit by revisiting and focusing on the guidance contained in the report outline and annotated outline contained in IPCC46 INF.7. The chapter should avoid becoming a general text on risk and risk governance. There is much need, as articulated in the outline, for a specific consideration of emergent risks, and decisionmaking IN THE CONTEXT OF those risks, and sustainable development (not solely SDGs). This is, of course, a SPECIAL report, specifically on the land sector. Most of the general textbook discussion on risk and governance is much more appropriate for the general AR and should be removed from this report. [Doreen Stabinsky, United States of America]	accepted. Risk section is revised

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27242	1				<p>Here is the relevant text of the outline and annotated outline that should be used to guide the writing of the chapter.</p> <ul style="list-style-type: none"> • Risks arising from interaction of climate change with desertification, land degradation, and food security and other development pressures (e.g., conflict, migration) • Management responses to areas of substantive risk arising from climate change • Synergies and trade - offs of response options that affect sustainable development and climate change adaptation and mitigation • Governance, institutions and decision - making across multiple scales that advance adaptation, mitigation and sustainable land management, in the context of desertification, land degradation, and food security <p>The first bullet focusses on the processes of conceptualising and identifying emergent and substantive risks within the context of the definition of emergent risk provided in the IPCC AR5 WG2 glossary. Important characteristics of emergent risks that might be considered include non - linear transitions as environmental processes exceed system tipping points, compounding risks from more than one environmental process, and the cascading of environmental risks into complex social processes. Such risks may arise from the interaction of climate change and processes arising in at least one (but perhaps more) of the domains of desertification, land degradation, and food insecurity. Other substantive areas of emergent risk that it may be relevant to discuss include the overwhelming of humanitarian systems, migration, and conflict resulting from degradation of natural resources. Specific examples, for instance multi - bread basket failure, might be covered in this chapter or Chapter 5, as although this risk relates specifically to food insecurity, the risk cascades from and compounds with risks linked to degradation, desertification, shared management and governance responses.</p> <p>The second bullet focuses on management responses to the identified areas of substantive risk and emergent risk, with the scale of the risks making it likely that most responses will be at the level of regional, national or international policy, and policy instruments supporting management responses.</p> <p>The third bullet further develops the theme of synergies and trade - offs between the responses identified in Chapters 3, 4 and 5 to the combined impacts of climate change, desertification, land degradation and food insecurity, and other policies, instruments, and processes that promote sustainable development should be discussed. A discussion of such synergies and responses with reference to the 17 SDGs may be useful here, but other, longer - term framings of sustainable development and promoting sustainable livelihoods could also be</p>	accepted. Risk section is revised
27244	1				<p>Addressing the content of the first bullet of the approved chapter outline could provide useful case studies / examples to address throughout the chapter. The emergent risk of multi-breadbasket failure, and the possibility of overwhelming humanitarian systems is quite real and quite possible, and an adequate assessment is absolutely required at this time. There is a huge opportunity in this IPCC report, specifically focused on the confluence of elements that might lead to such failure, and it's hard to imagine a reason why it would not figure prominently in this chapter. See the recent article by Tigchelaar et al. From the abstract "Our results portend rising instability in global grain trade and international grain prices, affecting especially the approx. 800 million people living in extreme poverty who are most vulnerable to food price spikes." The chapter should use this as a test of its framing -- if it after reading through the chapter one does not know how such emergent risks are currently dealt with, and what governance systems are needed in order to deal with such emergent risks, it will not have served its purpose. [Doreen Stabinsky, United States of America]</p>	Accepted. Relevant sections revised

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27246	1				Tigchelaar, M., Battisti, D. S., Naylor, R. L., & Ray, D. K. (2018). Future warming increases probability of globally synchronized maize production shocks. Proceedings of the National Academy of Sciences, 201718031. [Doreen Stabinsky, United States of America]	Noted
21772	2	2	2	2	Delete RISK MANAGEMENT [Manuel Cesario, Brazil]	Rejected. This was part of the approved chapter outline
26072	2	33	2	33	Section 7.6 is the first subheading in this chapter that explicitly refers to 'land'... Suggest to consider renaming some of the other section to be explicit for this report [Hans Poertner and WGII TSU, Germany]	Accepted. Added in the title of Section 7.4
11178	4	2	4	2	Define upfront, the meaning of uncertainty and confidence language used in the ES and the entire report. This will ensure that your reader understands the point being made. [Debra Roberts, South Africa]	Noted. It may not be possible here. To be added in Glossary/Ch1
21186	4	2	4	2	There may be a need to clarify what are the "Central Issues" in sustainable development. [Kamal Djemouai, Algeria]	Noted. Please see X-chapter box on land degradation and desertification
1630	4	3	4	3	I suggest adding "forests" among the listed essential resources [Francesca Spagnuolo, Italy]	Accepted as suggested
16042	4	3	4	4	how and where people live and work, their access to essential resources like water, energy, and minerals, and their ability to feed themselves [Ayotomiwa Alabi, Nigeria]	copy edit to be completed prior to publication
10446	4	4	4	4	"Decisions about land management combined with anthropogenic climate change." Which decisions? decisions in favour of or decisions for not investing on land? [Zitouni Ould-Dada, Italy]	Revised
25060	4	5	4	6	Add urban floods, inundation, and growth of informal settlements in cities. [Kirti Kusum Joshi, Nepal]	Rejected. This is outside the scope of land climate
4394	4	8	4	9	I don't understand "Evidence reveals policies that...". Maybe rather rephrase to read something like: "Globally, there are policies that..." [Michelle North, South Africa]	Accepted and revised
11164	4	12	4	24	The argument presented here do not support the uncertainty language used in the paragraph. The body of the paragraph should be geared towards supporting the assertion that there is high agreement and limited evidence that 'Changes in land-climate interactions will result in the crossing of thresholds or tipping points for ecosystems and human welfare' [Debra Roberts, South Africa]	Accepted and revised
25882	4	12	4	24	Please be more specific about the thresholds, tipping points, risks referred to in this paragraph. A definition of risk may not have to be included in the Executive Summary. [Hans Poertner and WGII TSU, Germany]	Accepted. Please see box on tipping points
26074	4	12	4	24	This paragraph is too general. Suggest to shorten this paragraph and stick to the land-related risks [Hans Poertner and WGII TSU, Germany]	Noted and revised accordingly
17100	4	12	4	24	The key finding that changes in land-climate interactions will result in the crossing of thresholds or tipping points for ecosystems and human welfare (high agreement, limited evidence) is not explained /described. It is expected that the key finding is followed by a short explanation of what it is. For instance, how do these interactions result in the crossing of tipping points? What are these tipping points? [Lourdes Tibig, Philippines]	Accepted and revision is in 7.3
26688	4	13	4	13	Re: "limited evidence" - check with humanitarian/ development sector: increasing evidence of tipping points for human welfare [Rianne ten Veen, Netherlands]	Accepted and revision is in 7.5
9440	4	13	4	15	Perhaps add reference to the definition of risk. AR5 WGII [Minal Pathak, India]	Accepted and revision is in 7.6

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4396	4	13	4	24	I'm not sure whether this is the right place for a comprehensive definition of risk, and the lengthy explanation of why these risks occur... This section needs to be succinct and summarize the main points, as well as providing solid examples of what is meant by "crossing the thresholds or tipping points" (i.e., that it is a point beyond which there is no return). Are there any hard numbers in the section referenced (7.3)? [Michelle North, South Africa]	Accepted and revision is in 7.7
16990	4	14	4	14	Please add severity in this sentence "Risks are dynamic and their severity may change over time" [Kiran Farhan, Pakistan]	Accepted and revision is in 7.9
16044	4	16	4	17	Uncertainty exists in scientific findings due to definitional, observational, and modelling choices, and intrinsic complexity of human and natural systems.... I observed the repeated use of and in place of a comma throughout the report. [Ayotomiwa Alabi, Nigeria]	Accepted and revision is in 7.13
26698	4	18	4	19	Re: "diverse determinations of the problem and its consequences", edit to "distribution of its consequences" - perception of problem significantly affected by whether (perceived) impacts are in locations of polluters or 'others' (e.g. poor far away) [Rianne ten Veen, Netherlands]	Accepted and revised
9442	4	21	4	22	Risks may also include those from deployment of mitigation options (e.g. BECCS) [Minal Pathak, India]	Risk. Section 7.3.3
11166	4	25	4	26	What is the confidence language here? [Debra Roberts, South Africa]	Accepted and revised
3732	4	25	4	26	This has no specific relevance to climate, or land or their interaction. It could apply to any policy domain. Can it ne made more specific? [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Noted and revised
4398	4	25	4	29	The definition of uncertainty "Uncertainty exists in scientific findings due to definitional, observational, and modelling choices, and intrinsic complexity of human and natural systems." provided in the previous paragraph would do better here, to explain what is meant by the first sentence. [Michelle North, South Africa]	Noted and revised.
4956	4	25	4	41	Is there any confidence / uncertainty language for these paragraphs? You're asking a lot of policy makers without providing them any guarantee that it will work [Michelle North, South Africa]	Noted and revised
11168	4	30	4	40	What is the confidence language here? [Debra Roberts, South Africa]	Accepted and revised
25064	4	30	4	40	Examples of co-benefits could have been articulated. Policy suite for flooding is mentioned but what are the co-benefits? Policies themselves are not co-benefits. [Kirti Kusum Joshi, Nepal]	Noted. This is discussed in Ch 6
25884	4	30	4	41	Please clarify which co-benefits is referred to in this paragraph. [Hans Poertner and WGII TSU, Germany]	Accepted. Examples added
4082	4	30	4	41	Suggest that you draw additional material from the statement on p. 58, lines 29-46: "Research has documented diverse agroecological practices of small scale agriculture to deal with climatic variability which have led to superior recovery from climate stressors. Additional research has suggested that high levels of on-farm biodiversity, polycultures, agroforestry systems, crop-livestock mixed systems accompanied by organic soil management, water conservation and harvesting, and traditional farming and risk management practices may present the only viable and robust ways to increase the productivity, sustainability and resilience of peasant-based agricultural production under predicted climate scenarios." Comment: Policies to support those outcomes can deliver the multiple co-benefits listed and should be encouraged. [Reid Detchon, United States of America]	Accepted and revised.
9444	4	36	4	36	Suggest to use well-designed instead of properly designed [Minal Pathak, India]	Accepted. Changed
5752	4	42	4	43	How, more clarification! [Sanaz Moghim, Iran]	Accepted and revised

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25066	4	42	4	45	"Rural adaptation" and "poor people (apparently, rural)" are mentioned but how about urban adaptation and urban poor? Surely land tenure plays an equally, if not more, important role in cities' fight against climate change -- particularly because land is an extremely scarce resource in many cities. [Kirti Kusum Joshi, Nepal]	Rejected. This is outside the scope of land climate
9446	4	43	4	43	The sentence mentions the impact of land tenure on rural adaptation. Would land tenure also affect urban adaptation/resilience? [Minal Pathak, India]	Rejected. This is outside the scope of land climate
11172	4	2	6	10	Ensure that references to sections of your chapters in the ES are placed in curly brackets [Debra Roberts, South Africa]	copyedit to be completed prior to publication.
21774	4	8	6	5	Replace 12 times the word RISK(S) by the word VULNERABILITY(IES) [Manuel Cesario, Brazil]	Use of term risk considered in relation to IPCC definitions and appropriate revisions made
18580	4		6		Executive summary overall - what appear to be missing from the ES is a listing of integrated frameworks that can be applied to land-climate-food systems according to context and objectives (ex: the social-ecological frameworks for common resources management for which land, water and resources are the main focus)... the messages highlight the need for policy packages but there is less in the way of illustration of how existing successful frameworks can be deployed...etc [Aziz Elbehri, Italy]	Rejected. Socioecological frameworks outside scope of chapter. Adaptive governance, adaptive management and collaborative governance covered.
11740	4		83		While this chapter contains a range of interesting information it is not well connected back to the rest of the report or structured in a way that policy makers and practitioners would be able to understand it or use it. [Debra Roberts, South Africa]	Accepted and revised
5468	4	4			Decisions about land management combined with anthropogenic climate change. Which decisions? decisions in favour of or decisions for not investing on land? [Daniel Danano Dale, Italy]	Accepted and revised.
4390	4	4			I think it may be better to say "Poor decisions about land management..." or "Inappropriate..." or similar, since it took me several rereads before I understood the fact that the statement is combining the negative effects of poor decisions with those of climate change. It might also be helpful to say something like "...land management, superimposed upon the effects of anthropogenic climate change already contribute..." or similar, to make it clear that you're talking about the effects of both land management and climate change, together [Michelle North, South Africa]	Accepted and revised
18954	4	5			Flooding - can be more specific to land-climate change induced floods such as flash flood [Aditi Khodke, Japan]	Rejected. Many types of flooding degrade land. See chapters 3 and 4
4392	4	6			Why are you restricting the effects "extreme rain and heat wave events" to cities only? Surely these events are noteworthy whether in cities or rural areas. [Michelle North, South Africa]	Accepted and Section Revised.
6976	4	7		8	Change "population and political dynamics" to "social, population and political dynamics" [David Etkin, Canada]	Accepted and Section Revised.
3422	4	12		13	...current changes! or current destructive trends! Will result in crossing.... Against these trends we need to create changes in the land-climate interaction... Foster an intended change towards a sustainable world [Cordula Ott, Switzerland]	copyedit to be completed prior to publication

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3424	4	13			not clear why Risk is discussed after the introducing bold sentence... major Risk is the breakdown of the planetary system... and we need to intentionally transform the world into a sustainable one before this happens. Risks and uncertainty; how are they are connected with this...!? Better to provide a specific paragraph In this summary, in which Risk and Uncertainty and the implication of normative decision-making are (more clearly) framed... [Cordula Ott, Switzerland]	Accepted and revision is in 7.4
6978	4	14		15	The idea of risk is valid even if events are certain. If they are certain then deterministic approaches are valid, where the risk is 100% known. There are many definitions of risk, and the one used by Oppenheimer is probably not the best. I note that the formula given in line 5 is a modification of that used by Blaie et al. (Blaikie, P., Cannon, T., Davis, I., & Wisner, B. (2014). At risk: natural hazards, people's vulnerability and disasters. Routledge.) There are many other variations in the risk literature as well. The authors of At Risk readily admit that it is a "pseudo-equation". [David Etkin, Canada]	Accepted and revision is in 7.8
3426	4	15			... this is very unspecific but often repeated sentence. It does not make clear the normativity, and why values are important [Cordula Ott, Switzerland]	Accepted and revision is in 7.10
3428	4	16			uncertainty is part of the systemic nature of the world and of the human-environment-relationship... this is major base. But all scientific assessments provide or are intended to provide evidence! Thus, the formulations and logic in this paragraph are not elaborated sufficiently [Cordula Ott, Switzerland]	Accepted and revision is in 7.11
25062	4	16			Uncertainty also exists due to data unavailability or unreliability and technological limitations. [Kirti Kusum Joshi, Nepal]	Accepted and revision is in 7.12
6980	4	18		19	Yes, decision making can often be unpredictable, but it is often predictable as well. One example is an oil pipeline - environmentalists object and the oil industry supports it. It does result in conflict, uncertainty aside. [David Etkin, Canada]	copyedit to be completed prior to publication
6982	4	19		21	Yes, those factors do contribute to risk, but there are many others as well, from social-political sources. [David Etkin, Canada]	Noted
3430	4	19			it is mostly different interests and power structures that lead to 'unpredictable' decision-making. [Cordula Ott, Switzerland]	Noted and developed
3432	4	25			include ideas from the last paragraph page 7.6. As a consequence, the last paragraph7.6. could concentrate on leverage, pathways identified etc. [Cordula Ott, Switzerland]	Noted and developed
3434	4	28			major question is who integrated in assessing, making choices, reassessing? Needs a clear model on societal interaction [Cordula Ott, Switzerland]	Accepted. Please see 7.4.1 and 7.5.5
3436	4	30			again: how to identify/develop those purposeful packages???? Science-society interaction [Cordula Ott, Switzerland]	Accepted. See 7.6
18956	4	31			Forest fire?, fire is too generic [Aditi Khodke, Japan]	Accepted. Edited as suggested
3438	4	42		45	This is quite obvious. But, there is a need to provide more results from sub-paragraph 'land tenure) p34-36. Important is the level of agreement and evidence on why and how insecure land tenure should be addressed . Where do we have evidence on what works, What are best practices . [Cordula Ott, Switzerland]	Accepted and revised
4400	5	3	5	4	Do you mean "...interactions of land, climate and system linkages..." or "...land and climate system linkages..."? Please check whether the sentence means what is intended at present ("land and climate and system linkages"), and alter if necessary [Michelle North, South Africa]	Accepted and Revised

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5918	5	3	5	5	not well-written! [Sanaz Moghim, Iran]	copyedit to be completed prior to publication
5958	5	3	5	5	cannot follow it! [Sanaz Moghim, Iran]	Accepted and Revised
1632	5	5	5	5	I suggest adding "and legal framework" after "local context". When speaking of land tenure/land rights, reference to the legal framework is unavoidable [Francesca Spagnuolo, Italy]	Accepted and revised
4402	5	5	5	6	Change to read: "...is an important consideration when selecting and applying policy instruments.", or, even better: "It is important to consider the local context, including land tenure and land rights, when selecting and applying policy instruments." [Michelle North, South Africa]	Accepted and revised
26700	5	5	5	6	Re: "Local context, including land tenure and land rights, is an important consideration in relation to the selection and application of policy instruments." - GLOBAL trade/ policy context incl. International/ overseas land ownership is increasingly significant; this affects (potential) impact of info in paragraph lines 16-21 of this page [Rianne ten Veen, Netherlands]	Rejected. Beyond the scope of this chapter
5920	5	6	5	11	not well-written! [Sanaz Moghim, Iran]	Revised
5960	5	6	5	11	it is not well-written! [Sanaz Moghim, Iran]	Revised
4404	5	8	5	9	Change to read: "...their inherent linkages, context-specific synergies, trade-offs and co-benefits, which depend on political, national and socio-economic factors." [Michelle North, South Africa]	Accepted and revised
7136	5	16	5	16	It may be useful to include the aspect of 'local' knowledge as well. The sentence would read: "and institutions including traditional and local knowledge ..." [Mariam Akhtar-Schuster, Germany]	Accepted and revised
5922	5	16	5	19	what does it mean? "Informal decision-making process ....in formal decision-making analysis"! [Sanaz Moghim, Iran]	Accepted and defined in section on informal and formal institutions in decision making.
26076	5	18	5	18	Need to be more specific about 'informal institutional interaction' [Hans Poertner and WGII TSU, Germany]	Accepted and revised
4406	5	18	5	19	Rather "...decisions and selected policy instruments...". Try to avoid using "selection of" or "application of" throughout. [Michelle North, South Africa]	Rejected. Unclear concern.
21374	5	19	5	19	"...may be inappropriate"...add "and inadequate" [Jony Mainaly, Nepal]	Accepted and revised.
25068	5	20	5	21	"climate mitigation" to be replaced by "climate change mitigation". [Kirti Kusum Joshi, Nepal]	Accepted and revised
21376	5	21	5	21	"...mitigation measures. (7.5.1;7.5.5;7.5.6)" ..add ". Local level informataal institutions such as mothers group, community forestry users group, water users group are also important considerations in formal decision-making analysis [Jony Mainaly, Nepal]	Accepted and added.
18526	5	22	5	24	Including stakeholders in the decision making is not the way to go. Rather impacted stakeholders must be empowered with organization, agency and ability to negotiate options and policies with decision makers and powerful constituents - that is the optimal sustainable way to ensure inclusive, broad-based beneficial outcomes of policy options [Aziz Elbehri, Italy]	Accepted and revised
17102	5	24	5	27	What is meant by "citizen science"? [Lourdes Tibig, Philippines]	See section 7.5.5 and 7.5.6
19586	5	25	5	25	Re: "New ways of involving citizens in environmental decision-making" - as phrased this seems denigrating to the situation of acknowledging long-standing means of community decision-making; presents as a colonial approach to what is defined as 'new', e.g. indigenous people have in many locations had very sustainable means of decision-making. Also, areas are occupied by more than citizens, so 'residents' is more encompassing so as not to exclude the stateless and long-term/ permanent residents. Would propose to change to "reviewed ways of involving residents in environmental decision-making," [Rianne ten Veen, Netherlands]	Accepted and revised

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26702	5	28	5	28	Re: "Social learning" - this page need also cover challenge to such learning: cognitive dissonance from existential challenges (e.g. country like Saudi Arabia is so overly dependent GDP wise on fossil fuels it cannot consider [being seen] contemplating certain measures to combat environmental challenges) [Rianne ten Veen, Netherlands]	Accepted. Policy instruments section includes ending carbon subsidies. Remaining comments outside scope of chapter.
4408	5	28	5	29	Modify to read: "...individuals engage in multi-step social processes to manage different framings of issues..." or similar. [Michelle North, South Africa]	accepted and revised
4410	5	30	5	31	Modify to read: "Such processes facilitate social feedback, the exploration of new policy options, and institutionalise new rights and responsibilities." [Michelle North, South Africa]	Accepted and revised
5924	5	31	5	32	not well-written! [Sanaz Moghim, Iran]	copyedit to be completed prior to publication
5962	5	31	5	32	it needs correction! [Sanaz Moghim, Iran]	copyedit to be completed prior to publication
18528	5	35	5	35	women play an important (but not dominant). Both men and women play important roles in agriculture [Aziz Elbehri, Italy]	copyedit to be completed prior to publication
5926	5	35	5	35	"Women play a dominant role in agriculture and..."? Why the authot highlights women here? [Sanaz Moghim, Iran]	Women are a vulnerable group in relation to climate impacts. See Cross chapter gender box.
18530	5	35	5	39	The whole paragraph need to be reframed. Land is important to livelihood to all rural people, rural households etc not just women. Women restrictions to land is a particular obstacle and the issue need to be framed correctly [Aziz Elbehri, Italy]	Importance of land framed for all in first paragraph of executive summary. This paragraph relates to women.
24528	5	35	5	39	See "Towards a gender-responsive implementation of the United Nations Convention to Combat Desertification" (Mor, 2017); it contains excellent case studies of gender-responsive actions for combating land degradation. http://www.unwomen.org/en/digital-library/publications/2018/2/towards-a-gender-responsive-implementation-of-the-un-convention-to-combat-desertification . To facilitate the link with the UNCCD, please consider and UNCCD Gender Action Plan (based on decision 30/COP.13, UNCCD 2017: 3-9): https://www.unccd.int/sites/default/files/documents/2018-01/GAP%20ENG%20%20low%20res_0.pdf [Barron Joseph Orr, Germany]	Accepted and considered in gender box
6732	5	35	5	39	see Towards a gender-responsive implementation of the United Nations Convention to Combat Desertification (Mor, 2017); it contains excellent case studies of gender-responsive actions for combating land degradation. http://www.unwomen.org/en/digital-library/publications/2018/2/towards-a-gender-responsive-implementation-of-the-un-convention-to-combat-desertification [Graciela Metternicht, Australia]	Accepted and considered in gender box
14672	5	35	5	39	See "Towards a gender-responsive implementation of the United Nations Convention to Combat Desertification" (Mor, 2017); it contains excellent case studies of gender-responsive actions for combating land degradation. http://www.unwomen.org/en/digital-library/publications/2018/2/towards-a-gender-responsive-implementation-of-the-un-convention-to-combat-desertification [Rattan Lal, United States of America]	Accepted and considered in gender box
5754	5	36	5	36	"women's livelihoods" why not people's livelihoods? [Sanaz Moghim, Iran]	First paragraph of executive summary deals with all people. This paragraph deals with gender box.
5928	5	36	5	39	not well-written! "(such as biofuel) And building on the collective action and agency of women increase resilience"? [Sanaz Moghim, Iran]	Accepted and revised

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24530	5	40	5	47	It omits reference to the Land degradation neutrality core indicators, which are also part of the UNCCD progress indicators: The indicators for LDN are the UNCCD progress reporting indicators Land cover change Land productivity dynamics Carbon stocks (soil organic carbon). Also, this should cite the indicator SDG 15.3.1 as it is the only one providing indication of land degradation within the SDGs. Good practice guidance. SDG Indicator 15.3.1: Proportion of land that is degraded over total land area. CSIRO (2017) at: https://publications.csiro.au/rpr/pub?pid=csiro:EP18727 [Barron Joseph Orr, Germany]	Accepted and revised. Literature considered in policy instrument section. Not peer revised literature.
6686	5	40	5	47	It omits reference to the Land degradation neutrality core indicators, which are also part of the UNCCD progress indicators: The indicators for LDN are the UNCCD progress reporting indicators (and associated metrics): Land cover (land cover change) Land productivity (net primary productivity) Carbon stocks (soil organic carbon). As well it needs to cite the indicator SDG 15.3.1 as it is the only one providing indication of land degradation within the SDGs. Good practice guidance. SDG Indicator 15.3.1: Proportion of land that is degraded over total land area. CSIRO (2017) at: https://publications.csiro.au/rpr/pub?pid=csiro:EP18727 [Graciela Metternicht, Australia]	Accepted and revised. Literature considered in policy instrument section. Not peer revised literature.
14674	5	40	5	47	It omits reference to the Land degradation neutrality core indicators, which are also part of the UNCCD progress indicators: The indicators for LDN are the UNCCD progress reporting indicators (and associated metrics): Land cover (land cover change) Land productivity (net primary productivity) Carbon stocks (soil organic carbon). Also, it should cite the indicator SDG 15.3.1 as it is the only one providing indication of land degradation within the SDGs. Good practice guidance. SDG Indicator 15.3.1: Proportion of land that is degraded over total land area. CSIRO (2017) at: https://publications.csiro.au/rpr/pub?pid=csiro:EP18727 [Rattan Lal, United States of America]	Accepted and revised. Literature considered in policy instrument section. Not peer revised literature.
21378	5	42	5	42	"...and decision making.." ..add "and implementation" [Jony Mainaly, Nepal]	Accepted and revised
5930	5	42	5	46	not well-written! "Measurable indicators include Sustainable Development Goals, ..."?,"institutional system" is right here? [Sanaz Moghim, Iran]	copyedit to be completed prior to publication
11170	5	42	5	47	Fine but too broad. What is the linkage to land? [Debra Roberts, South Africa]	Accepted and revised
11176	5	42	5	47	While it is important to consider risks, moving into the solution space should also be given emphasis. [Debra Roberts, South Africa]	Accepted and revised
18532	5	45	5	47	what are these institutional measurements? Can you give examples as you did in previous sentences [Aziz Elbehri, Italy]	Accepted and revised
3442	5	1		3	frist sentence illustrates confusion and creates confusion. Such sentneces show that the conceptual base for tackling complexity is weak. [Cordula Ott, Switzerland]	Accepted and revised
3440	5	1			the whole paragraph is unclear... complexity seems overwhelming and results in complex sentences and confusion in the argumentation... What is basic idea? [Cordula Ott, Switzerland]	Accepted and revised
3444	5	3		5	.. compared to the once that do not pay attention? this is simple... [Cordula Ott, Switzerland]	copyedit to be completed prior to publication
3446	5	5		6	also very weak statement [Cordula Ott, Switzerland]	Considered and statement changed.

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3448	5	6			Agenda 2030/ is global orientation for development and innovation; SDGs are road.... Make the reference to the Agenda 2030/SDGs in a specific paragraph [Cordula Ott, Switzerland]	SDGs are indicators considered in chapter
3450	5	16		17	again very weak formulation: only consider? consider how? [Cordula Ott, Switzerland]	copyedit to be completed prior to publication
25070	5	23			"... social learning" to be replaced by "... social learning and acceptance". [Kirti Kusum Joshi, Nepal]	Noted
3452	5	32			in engaing with uncertainty and risk... and in developing suited policies and governance systems. [Cordula Ott, Switzerland]	Accepted and revised
3454	5	34			responsibility and obligation only? No, it is a right, too! In addition, the level of agreement and evidence is important here! ...and on how to do it... [Cordula Ott, Switzerland]	Accepted and revised
3456	5	35		39	the issue of disparities/equity/justice is weakly addressed... These issues imply equal scince-society interaction on an equal base.. Tramnsdiscilpnary approaches are pathways to suatinable development. This sentences on women are buzzwords, outdated... still necessary to discuss the situtation of women, but more in an intergated way and not just added somewhere in the text... agency of all (especially also the economically and socially marginalised; espeacilly women) is central. Better refer to central elements in the BOX [Cordula Ott, Switzerland]	Gender added to chapter. Inequality beyond scope of chapter
6984	5	35			Women play a dominant role in agriculture in many, but not all societies. [David Etkin, Canada]	accepted and revised
4414	5	35			I think it is important to include "in many parts of the world" to the phrase "Women play a dominant role in agriculture", because it certainly isn't true everywhere and this sentence makes it sound as though it were a global truth [Michelle North, South Africa]	Revised
4412	5	36			I don't understand "alienation of title", please reword. Also, change "competing uses of land" to "competing uses for land" [Michelle North, South Africa]	Accepted and revised
25072	5	37			"... may increase vulnerability" to be replaced by "... contribute towards increased vulnerability". Maybe we can say this with fair agreement and fair amount of evidence. [Kirti Kusum Joshi, Nepal]	Accepted and revised. Suggested certainty statement not in accordance with IPCC language.
3458	5	40			Measuring is necessary part of the adaptive governance approach! .. also here the question how to proceed: what is the role of science, who decides...who assesses indicators an dprogress [Cordula Ott, Switzerland]	Accepted and revised
4416	5	40			Please delete "in order" so that this reads: "...in decision making and governance to create common understanding..." - it is never necessary to write "in order", it is a spoken phrase that is redundant in written work [Michelle North, South Africa]	Accepted and revised
3460	5	41			limited evidence.. interesting! what does it imply? That we do not have enough knowldge on how to proceed oin societal processes? Not enough knowledge on adequate joint monitoring and evaluation and their results? [Cordula Ott, Switzerland]	Accepted and revised
4418	5	44			Introduce what "REDD" means, please [Michelle North, South Africa]	Defined in glossary
21380	6	2	6	2	"...may require..." ...add "...flexible" before "an adaptive, iterative approach.." [Jony Mainaly, Nepal]	Accepted and revised
4420	6	3	6	6	This sentence is very long, complicated and hard to understand. Please rewrite for clarity [Michelle North, South Africa]	Accepted and revised
5756	6	3	6	6	better to split it into more sentences! [Sanaz Moghim, Iran]	Accepted and revised
1634	6	7	6	7	do the author mean "weather" or "climatic" events? [Francesca Spagnuolo, Italy]	Accepted and revised

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5758	6	8	6	8	"feedbacks in a degraded system are recognized"? the feedbacks are mostly unknown! [Sanaz Moghim, Iran]	Rejected. Peer reviewed literature required
3462	6	1		10	this paragraph (as the last one in the summary) is fundamental. It should be precise on where to look for leverage, where new pathways emerge, how to proceed... [Cordula Ott, Switzerland]	Accepted and revised
6986	6	1			Yes, risks vary dynamically in space and time, but also culturally. [David Etkin, Canada]	Accepted and revised
3464	6	2			the adaptive, iterative process has to be organized at the science-society interface. In this interaction, decisions and policy instruments are to be assessed and revised [Cordula Ott, Switzerland]	Accepted and revised
3466	6	8		9	it is important to say something about: level of agreement and evidence that an adaptive iterative (societal) approach is beneficial... [Cordula Ott, Switzerland]	Accepted and revised
25074	6	9			"... acting early will generate returns on investments" or at least, could minimize losses. [Kirti Kusum Joshi, Nepal]	Accepted and revised
4424	7	8	7	9	Modify to read: "...that considering these inter-linkages and utilising a deep understanding of risk, improves..." [Michelle North, South Africa]	Accepted, sentence revised
21382	7	15	7	15	Line 12 within box: "...but adaptation is also essential at all scales (Denton et al. 2015)" -- what are these scales? [Jony Mainaly, Nepal]	Accepted. Amended
21384	7	15	7	15	Line 28 within box: "... payments REDD+" -- sentence not clear. [Jony Mainaly, Nepal]	Accepted. Revised
8016	7	2	8	17	Although the cited reference (Oppenheimer et al. 2005) is one of the most important sources regarding the concept of "emergent risk and key risks", there is clear lack of using the most recent references, especially the literature published in the last three years (>2015). In this regards, I suggest that considering the following two references which provide very interesting information and insights into the concept of "climate change risks": 1- Brian C. O'Neill, Michael Oppenheimer, Rachel Warren, Stephane Hallegatte, Robert E. Kopp, Hans O. Pörtner, Robert Scholes, Joern Birkmann, Wendy Foden, Rachel Licker, Katharine J. Mach, Philippe Marbaix, Michael D. Mastrandrea, Jeff Price, Kiyoshi Takahashi, Jean-Pascal van Ypersele & Gary Yohe, 2017, IPCC reasons for concern regarding climate change risks, Nature Climate Change, volume 7, pages 28–37. 2- Mysiak J, Torresan S, Bosello F, Mistry M, Amadio M, Marzi S, Furlan E, Sperotto A. 2018 Climate risk index for Italy. Phil. Trans. R. Soc. A 376: 20170305. http://dx.doi.org/10.1098/rsta.2017.0305 . Kindly note: the first reference has a number of authors who are the best in the field, including (Mr. Michael Oppenheimer). [Alaa Al-Hasani, Iraq]	The current section is largely definitional and focuses on previous IPCC reports. The references are taken into account in other sections
6996	7	15	8	1	This is my most important comment. The discussion of decision-making in this document focuses on risk management. Yes, that is a very useful lens through which to look at climate change, but there is another important component to this issue, which is ethical/moral decision-making. The literatures on risk assessment and ethical decision making have very little overlap, but they are really two sides of the same coin, and there is a significant literature on ethics and climate change that is absent from this document. I refer to the references in item 12 below this one. In particular I believe that the precautionary principle as it applies to climate change requires more attention. Please see comment 13 for a paper that discusses this issue. [David Etkin, Canada]	Accepted. Aspects of ethics added to Inclusive governance

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6998	7	15	8	1	<ul style="list-style-type: none"> • Craft, J.L., 2013. A review of the empirical ethical decision-making literature: 2004–2011. <i>Journal of Business Ethics</i>, 117(2), pp.221-259. • Hansson, S.O., 2007. Philosophical Perspectives on Risk, <i>Techné: Research in Philosophy and Technology</i>, Vol. 11, no. 1 (Fall 2007). • Renn, O. and Klinke, A., 2015. Risk governance and resilience: New approaches to cope with uncertainty and ambiguity. In <i>Risk Governance</i> (pp. 19-41). Springer Netherlands. [David Etkin, Canada] 	Taken into account and considered
7000	7	15	8	1	<ul style="list-style-type: none"> • Etkin, D., Higuchi, K. and Medayle, J. (2012). Climate Change and Natural Disasters: An Exploration of the Issues. <i>Journal of Climate Change</i>, June 2012, Volume 112, Issue 3-4, pp. 585-599. • Klinke, A. and Renn, O., 2001. Precautionary principle and discursive strategies: classifying and managing risks. <i>Journal of Risk Research</i>, 4(2), pp.159-173. [David Etkin, Canada] 	Taken into account and considered
9454	7	15	8	1	The section title includes 'research gaps'. Not sure if the gaps are reflected in the section text. [Minal Pathak, India]	Accepted. Revised
5760	7	15	8	1	Text in the box can be classified in both editorial and substantive category, it is not well-written. [Sanaz Moghim, Iran]	Taken into account and considered
17104	7	15	8		It is being suggested that the relevant findings of previous PCC reports should not just be enumerated. It would make an interesting and useful read if the different findings could be developed into a narrative that will further policymakers' knowledge on risk management. [Lourdes Tibig, Philippines]	Accepted. Narrative on risk developed in 7.3
21776	7	2	9	18	the replacement of the term "risk" should be mandatory only when it refers to the quantitative reasoning that supports the tool of "Risk Management", while the use of "risk" in a lay manner may be maintained [Manuel Cesario, Brazil]	Rejected. Risk understanding of literature and previous IPCC reports detailed
27562	7	1	25	47	Substantive work and has brought out the nexus and connectivity of the issues. [Daniel Mailumo, Nigeria]	Accepted. Chapter focuses on connectivity to other chapters more
26078	7	1			This introduction should much better explain the relation to other chapters. Until 7.3.3 there is hardly any proper reference to the land challenges discussed in SRCL. The structure of this chapter should be therefore much better explained and clearly link to the rest of the report. [Hans Poertner and WGII TSU, Germany]	Accepted. 7.2.5 Roadmap to the chapter added and table identifying policies for chapter 6 response options.
3468	7	2		3	7.2. provides a synthesis of the different chapters, too, and it detects implication on how to proceed...? [Cordula Ott, Switzerland]	Synthesis drawn in 7.2.3
18958	7	3			Climate change land and humans- The chapter includes risks associated with flora and fauna as well and not limited to humans [Aditi Khodke, Japan]	Taken into account. It is included in land
6988	7	3			Does 'land' include ecosystems? If not, mention it explicitly. [David Etkin, Canada]	Taken into account. It is included
4422	7	4			Modify to read: "with respect to risks..." [Michelle North, South Africa]	Accepted. Amended
3470	7	6			the trends they create? [Cordula Ott, Switzerland]	copyedit to be completed prior to publication
25028	7	6			It is worth mentioning that land also serves as a source of wealth (assets) which can be sold or leased if/when needed. [Kirti Kusum Joshi, Nepal]	Taken into account and covered in land tenure section
3616	7	7			This section does not define sustainability. This term is thought to be well defined and understood, however, in my experience, it is not. Also, climate change policy is poorly linked to the quantification of sustainability. See Somogyi, Z. 2016. A framework to quantify environmental sustainability. <i>Ecological indicators</i> Volume 61, Part 2, Pages 338-345 https://doi.org/10.1016/j.ecolind.2015.09.034 [Zoltán Somogyi, Hungary]	Taken into account and considered in performance indicator section

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3618	7	7			The most recent publications analysed in this section are from 2015. Certainly, there are a lot of more recent publications that should be assessed. [Zoltán Somogyi, Hungary]	The current section is largely definitional and focuses on previous IPCC reports. The references are taken into account in other sections
3474	7	8		11	.. such a sentence illustrates a weak understanding. That inter-linkages are relevant is a given. Question is how to tackle these inter-linkages in an beneficial way.... Important is a deep understanding of the relevance of science.-society interaction, normative decision-making... [Cordula Ott, Switzerland]	Accepted and revised
3472	7	8			the Agenda 2030 and the SDGs as the major orientation for development and innovation need an introduction (in Chapter1) and a bit here. A clear reference to the Agenda 2030 would support the conceptual base of this document.. especially in regard of how to proceed [Cordula Ott, Switzerland]	Taken into account. SDGs are included on line 8 page 7 and in Indicators section
20304	7	11			Maybe this is not concrete enough, what exactly are the scenarios, the flexibility could leave too much room for inaction for too long. Would it be realistic to define scenarios more clearly and to give categories of examples of what would need to be done. For instance, for 2 degree Celsius warming scenario, to avoid consequences such as X, a certain quantity of y must be done. Some paragraphs are too vague for policy makers to use them as a basis for action, as soon as there is room for interpretation that maybe the scenario is not going to be as severe as some experts expect, than the option of business as usual becomes the preferred option. [Petra Minnerop, United Kingdom (of Great Britain and Northern Ireland)]	Accepted. Section 7.2.3 links with scenarios
4428	7	12			Change "the identification of" to read: "...build on identifying policies, decision making..." [Michelle North, South Africa]	Not accepted: "the identification of" is clearer English
4426	7	13			Modify to read: "with respect to risks..." [Michelle North, South Africa]	Accepted. Amended
26080	7	15			need to specify which reports you refer to here - AR5 (which WGs?) and SREX? [Hans Poertner and WGII TSU, Germany]	Accepted. Text inserted above box
3476	7	24		28	It is here! Common understanding is necessary. Here, lies the rationale for adaptive and flexible processes organized at the science-society interface: Science and society have to bring in different knowledge systems (including values, interests, ...) for joint decision-making ... all citizen/(human beings) have jointly to decide for example on risks to take in the selection of a specific pathway (nuclear power yes or no!) [Cordula Ott, Switzerland]	Noted. See participatory decision making and inclusive governance
5470	7				Important aspects of climate resilient policies include local level institutions, decentralisation, participatory governance, iterative learning, integration of local knowledge, and reduction of inequality (Dasgupta et al. 2014; Lavell et al. 2012; Cutter et al. 2012; O' Brien et al. 2012; Roy, J., Tschakert, P., Waisman). Very important points are mentioned but no mention of lessons or knowledge learnt from others or from the review of existing policies or policies in the past that have positively impacted. [Daniel Danano Dale, Italy]	Accepted and revised. Full citations needed to be considered.
3734	8	1	8	1	"risk results from the interaction of VEH" is a definition rather than a finding. [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account revised.
9448	8	1	8	14	This framing perhaps does not cover risks related to mitigation actions, technology risks, etc. Perhaps add a sentence to elaborate. The WGIII AR5 definition is a little broader and could be added (Ch 2 WGIII AR5; Glossary AR5 WGIII) [Minal Pathak, India]	Taken into account: WGIII definition now referred to and mitigation risks are discussed in other sections
18936	8	2	8	17	Definition of risk? Should emphasis on the negative consequences [Quangha Pham, Vietnam]	Accepted and revised
3736	8	3	8	4	This is actually taken from the pre-2009 ISO definition of risk [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	noted: section has been rewritten

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
3738	8	4	8	5	Note only "cited" - risk may not be amenable to characterisation in this way. [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	accepted and revised
20700	8	8	8	8	Please check whether the name of authors should be in the parentheses [Mahamadou Laouali Amadou, Niger]	Accepted and revised
4276	8		8		Text in box: "sustainable land management is an effective disaster risk reduction tool (Cutter et al. 2012)". This is an important finding. Is this paper the only one that agrees? There could be more recent papers. [Daniel Pazmino, Ecuador]	Text box refers to previous IPCC Reports. Taken into account in 7.4
4430	8	2	9	16	Despite the title of this section being "Emergent, emerging and key risks", emerging risks are not mentioned. Please include a sentence or more to explain why emerging risks are regarded as being separate from emergent risks [Michelle North, South Africa]	Accepted and title revised
3898	8		83		Very nicely written. [Pushp Raj Tiwari, United Kingdom (of Great Britain and Northern Ireland)]	noted
6990	8	3		5	There are many definitions of risk, and the one used here, though commonly referenced, does not capture many of the subtleties of the notion. Of course, much of this depends upon how the word 'consequences' is unpacked. The reference in comment 9 below discusses other factors important to climate change. [David Etkin, Canada]	Taken into account during revision of section
6992	8	3		5	Hovden, J. (2004, April). Risk and uncertainty management strategies. In 6th International CRN expert workshop, Stockholm (pp. 22-24). [David Etkin, Canada]	Noted but not peer reviewed published literature
6262	8	5			change: we regard risk to we to regard risk [Abdel-Hai Benali, Algeria]	Rejected: suggestion was less grammatical than text replaced
25030	8	7			As per new IPCC definitions (and in consistent with Line 13), 'vulnerability' is defined by 'sensitivity' and 'adaptive capacity', and hence the latter can be removed from the sentence or it is better to put these within parenthesis after 'vulnerability'. [Kirti Kusum Joshi, Nepal]	Taken into account and wording revised
18960	8	8			If possible please correlate (Oppenheimer et al. 2015) definition of risk to some other sources. [Aditi Khodke, Japan]	accepted and revised
5512	8	17			remove the number 1052 from the reference [claudio szlafstein, Brazil]	Rejected: verbatim quotations are given page numbers in accordance with scholarly norms
17646	8				1. Page 8, Box 1 – define terms of hazard, exposure and vulnerability. Different disciplines use these words to mean very different things so it might be useful to restate how they were defined in the previous IPCC reports [Paul Hudson, Germany]	Taken into account. See section 7.2.2 and Glossary
18962	9	2	9	14	The scope of the chapter could come earlier in 7.2 [Aditi Khodke, Japan]	Noted. Thank you. Comment incorporated earlier in the chapter.
21386	9	17	9	17	Line 12 within box: "We will explore ..." -- what is meant by "we"? [Jony Mainaly, Nepal]	accepted and revised.
25396	9	17	9	18	sentence after "tipping point" is very confusing. [Rebecca Teasley, United States of America]	accepted and revised.
5762	9	17	9	18	Just repeating several times "high uncertainty and tipping point issue" in different ways in the sentences in this box! [Sanaz Moghim, Iran]	accepted and revised
3740	9	18	9	18	"unknown unknowns" could go as it isn't actually referred to in the box [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Unclear on page and line referred to
3742	9	19	9	19	Would a box on risk characterisation help somewhere around here? There are many terms - emergent risk, substantive risk etc - used throughout the chapter that could usefully be brought together in one place. Not really a glossary job, though the glossary is needed. [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Noted and accepted. Some terms are in a box and also please see the IPCC Glossary
1636	9	29	9	29	I suggest adding "legal" factors among the drivers. According to Nelson et al. (2006) cited by the author, laws are also among the drivers of changes in ecosystems [Francesca Spagnuolo, Italy]	Noted. Thank you. These legal aspects are incorporated in some of the cases and boxes.

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
18898	9	19	24	4	7.3 Characterising Risk, this section should review the risk related to this report, especially on risk about desertification,land degradation,food ,mitigation and adaptation related to land , and generally risk knowledge may removed. [Jianguo Wu, China]	Noted and accepted. Authors will refine tables (esp 7.1) and link to text. Reviewer asking authors to more explicitly address risks of / to desertification,land degradation,food ,mitigation and adaptation related to land . and remove risk knowledge.
21778	9	19	43	11	It is sad and disappointing that such an important part of this IPCC SRCL – Decision Making in relation to Sustainable Development – will still rely upon the rotting concepts of Risk, and Risk Management. “Recent IPCC Reports” have been using “Risk and Risk Management” based on one single publication (Oppenheimer et al. 2015), as clearly stated in Box 7.1 (pages 7-7 to 7-8), which defines that “risk results from the interaction between vulnerability, exposure and hazard”; the use of the same authors, three consecutive times, to define such an important concept, per se, is sufficient to weaken the adoption of this concept. Furthermore, on the very beginning of Section 7.2.2 (also page 7-8), this very same publication (Oppenheimer et al. 2015) suffices to re-define risk as the product between the “Probability of Events or Trends” and “Consequences”. By mathematical definition, we can only calculate the risk of something to happen if we know the probability of such think to happen, what in turn is linked to the exposure, the trends and, ultimately, to the evidence on the number of times that such thing happened in the past. Because we also know that evidencing past events is one of the troubles faced by the IPCC reports, I strongly suggest to replace not only the terms “risk” and “risk management” by the concepts of vulnerability and/or hazards (all across the excellent text of Chapter 7), but, moreover, to replace the quantitative reasoning embedded in Chapter 7 by a qualitative approach, when dealing with “Decision Making in relation to Sustainable Development”; these very same authors (Oppenheimer et al. 2015) may supported my suggestion, since they acknowledge “risk as having important dynamic [...] characteristics, constituted partly by uncertainty and determined by factors including vulnerability, [...] anthropogenic and natural conditions”. Therefore, Sections 7.3 and 7.4 should be re-written in the lights of a qualitative approach, favouring the use of the concept of “vulnerability” instead of “risk” and “risk management”. [Manuel Cesario, Brazil]	Acknowledged and addressed in the wording of the chapter text and figures. Since governments gave us the assignment (and the chapter titles and subheaders including risk and risk management, we use this terminology and endeavor to bridge understandings and expand upon them. Changes undertaken particularly in 7.2 and 7.3 and the comment was discussed as a chapter team and the perspective is taken up in other sections of the draft chapter seven.
6264	9	15			change: In this chapter we to In this chapter, we [Abdel-Hai Benali, Algeria]	accepted text revised.
4432	9	18			In Box 7.2, the sentence "Furthermore, along with deep uncertainty, tipping points – where coupled biophysical and social systems or socio-ecological systems shift radically and potentially irreversibly into a different state or regime under climate and global change, offering both challenges and opportunities for mitigation and adaptation." is incomplete. It should possibly read more like: "Furthermore, along with deep uncertainty, tipping points – where coupled biophysical and social systems or socio-ecological systems shift radically and potentially irreversibly into a different state or regime under climate and global change, offering both challenges and opportunities for mitigation and adaptation – exist.", although it is still a bit lumsy [Michelle North, South Africa]	accepted and revised
4434	9	24			I think that, even though anyone reading this report should know what GHGs are, the acronym should still be written out in full at first mention in each chapter. [Michelle North, South Africa]	Accepted and revised
6994	9	25			Change "lead" to "contribute" since there are other important factors as well. [David Etkin, Canada]	Accepted and revised
6266	9	28			change: cause change to cause a change [Abdel-Hai Benali, Algeria]	Accepted and revised

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6268	9	30			change: with drivers to on drivers [Abdel-Hai Benali, Algeria]	Accepted and revised
14676	9	30			Legal procedures will not forestall the planned obsolescence of products designed for the dump, nor the perceived obsolescence fostered by propaganda-induced consumerism, which arise in people the sensation that products should always be substituted by new ones, buying and disposal converted into rituals of a culture that makes consumption a way of life (Foster and Clark, 2012). Ref.: Foster, J. B. and Clark, B. The Planetary Emergency, Monthly Review, 07 (64), 2012 [on line]: http://monthlyreview.org/2012/12/01/the-planetary-emergency [Rattan Lal, United States of America]	Thank you for this comment. We have referred this reference and comment to the chapter on food, which also explicitly deals with consumption.
4436	10	3	9	4	In "linked to other problems, and; confusing ramifications to the whole system exists", there is a typo spelling error (problems) and I think there is something missing after the "and"; if not, then remove the semi colon. Also, it would be better to end of by saying something like: "...linked with other problems, with confusing ramifications for the whole system." [Michelle North, South Africa]	accepted and revised
26082	10	1	10	1	This sentence is not clear. What do you mean by 'nature of the issue'? [Hans Poertner and WGII TSU, Germany]	Noted, sentence reworded.
21422	10	1	10	6	This set of conditions has been identified as a wicked problem by Rittel and Webber https://www.nature.com/articles/ngeo2780 [Urbano Fra.Paleo, Spain]	Accepted and revised
4278	10	3	10	3	Spelling error: "probslems". [Daniel Pazmino, Ecuador]	accepted and revised
1638	10	3	10	3	typo "probslems" [Francesca Spagnuolo, Italy]	accepted and revised
21388	10	3	10	3	"probslems" is misspelled. [Jony Mainaly, Nepal]	accepted and revised
2612	10	3	10	3	Typo: should be "problems". [William Lahoz, Norway]	accepted and revised
16046	10	3	10	4	and is linked to other 'probslems', and;...spelling error should be corrected to 'problems'. [Ayotomiwa Alabi, Nigeria]	accepted and revised
11180	10	12	10	17	These will not be necessary if you define these in the ES [Debra Roberts, South Africa]	Accepted and revised
26704	10	12	10	32	addition, also noting (somewhere appropriate in final version of this paragraph that "absence of evidence is not evidence of absence" [Rianne ten Veen, Netherlands]	Accepted and revised
4442	10	13	10	14	Qualitative and quantitative do not need to be capitalized [Michelle North, South Africa]	accepted and revised.
21390	10	18	10	21	Sentence not grammatically correct, and hence unclear. [Jony Mainaly, Nepal]	accepted and revised
4446	10	19	10	21	Move " are not known" to the end of the sentence, to read: "...when the exact nature of current and future environmental trends and negative ecological impacts, or the consequences of possible interventions, their impact, what will occur if the interventions are not implemented or deferred are not known" [Michelle North, South Africa]	accepted and revised
21392	10	30	10	30	Better to elaborate what BECCS stands for when it is being used for the first time in the text. [Jony Mainaly, Nepal]	noted and revised
23840	10	30	10	30	not only bioenergy plantations but biomass utilization and carbon capture and storage (CCS).at large [Urbano Fra.Paleo, Spain]	noted and revised
18964	10	33	10	34	Previous IPCC assessments.....'from very wide variety of sources'- please include examples of some sources [Aditi Khodke, Japan]	Noted. Addressed as part of the chapter editorial work.
4450	10	33	10	34	Delete "a wide range of" and "very wide", so that it reads: "...used scenarios in different ways and from a variety of scources..." [Michelle North, South Africa]	Accepted and revised

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3744	10	35	10	35	The nature of scenarios is such that they are not intended to inspire confidence in a predictive sense. This makes them sound like poor forecasts. Could it be mentioned, in consultation with the scenario team, that scenarios are a tool to explore uncertainties? [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Noted. Thank you. A new box is bringing in this point about scenarios.
7138	10	35	10	35	It would be useful to provide the definitions of 'scenarios', 'predictions', 'projections' and 'forecasts' in a footnote or in a box. [Mariam Akhtar-Schuster, Germany]	Noted. Addressed as part of the chapter editorial work.
4452	10	38	10	39	Modify to read: "There is uncertainty in the choice of pathways required to achieve the global target of keeping mean temperature change below 1.5°C.", or similar. End the sentence there and start "Current Nationally Determined Contributions..." as a new sentence [Michelle North, South Africa]	Accepted and revised
25398	10	38	10	42	sentence starting with Uncertainty does not fit into this paragraph. Very confusing. [Rebecca Teasley, United States of America]	Noted. Addressed as part of the chapter editorial work.
4454	10	40	10	42	Modify to read: "...as the scenarios to meet this target are largely unrealistic (), with the early-warning systems, model structures, parameterisations and inputs, and unknown futures (Chapter 1) all contributing to this uncertainty." [Michelle North, South Africa]	Accepted and revised
4456	10	42	10	44	Modify to read: "A further challenge exists dealing with the uncertainties involved when differentiating between anthropogenic climate change and natural climate variability ()." [Michelle North, South Africa]	Accepted and revised
16172	10	11	11	28	Please consider deleting or cutting down sections 7.3.1.1 and 7.3.1.2 as they are too general and do not connect good to the Chapter and lack internal coherence. [Lorenzo Giovanni Bellù, Italy]	Noted. Addressed as part of the chapter editorial work.
6270	10	3			change: other problems to other problems [Abdel-Hai Benali, Algeria]	accepted and revised
5472	10	3			every problem has sub-problems and is linked to other problems. Correct it to problems [Daniel Danano Dale, Italy]	accepted and revised
6272	10	5			change: uncertainty and risk is not to uncertainty and risk are not [Abdel-Hai Benali, Algeria]	Accepted and revised
4438	10	5			"uncertainty and risk are not linear..." [Michelle North, South Africa]	Accepted and revised
4440	10	5			Delete the "but complex", so that it reads: "uncertainty and risk are not linear or simplistic, requiring complex conceptual frameworks..." [Michelle North, South Africa]	Accepted and revised
4444	10	15			What is meant by "Uncertainty in climate science and its subsequent use"? Subsequent use of the uncertainty or of the climate science? I think this phrase ("and its subsequent use") could be omitted without altering the meaning of the sentence [Michelle North, South Africa]	Noted. Addressed as part of the chapter editorial work.
25032	10	25			Replace "land projections" by "land use projections". [Kirti Kusum Joshi, Nepal]	accepted and revised
4448	10	30			What are "BECCS"? Please write out [Michelle North, South Africa]	Noted. Addressed as part of the chapter editorial work.
25034	10	35			"Scenarios have less confidence than do predictions, projections, and forecasts" but is it not because scenarios are based on predictions, projections, and forecasts; so uncertainties naturally add up? [Kirti Kusum Joshi, Nepal]	Accepted and revised
23842	11	1	11	1	and to unexpected consequences of actions, inherent to these, or climate change https://link.springer.com/chapter/10.1007/978-1-4471-5532-4_5 [Urbano Fra.Paleo, Spain]	Accepted and revised
23844	11	3	11	3	Uncertainty of governance/ might better reflect the contents [Urbano Fra.Paleo, Spain]	Accepted and revised

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26706	11	4	11	11	People do not just have factual info as regards climate change as motivator, also (increasingly) faith motivations, see e.g. Pope's Encyclical for action 'Laudato Si' and as example of multifait action: GreenFaith, www.greenfaith.org as reasons to be careful with this environment (irrespective of whether climate change is 'real'). [Rianne ten Veen, Netherlands]	Accepted and revised
23846	11	5	11	5	judgment is already construction of risk [Urbano Fra.Paleo, Spain]	not clear. Kindly clarify
26084	11	14	11	21	Please give examples in the context of climate change and land, regarding these three dimensions of uncertainty. [Hans Poertner and WGII TSU, Germany]	Noted. Examples added.
1640	11	20	11	21	I suggest adding "regulatory" choices [Francesca Spagnuolo, Italy]	Accepted and revised
26086	11	35	11	38	Suggest to take an example that is more explicitly relevant regarding degradation, desertification or food security, etc. [Hans Poertner and WGII TSU, Germany]	Accepted and revised
23848	11	42	11	42	lowland, midland, and highland farming is a simplistic perspective that does not take into account the location of hazards (slope, coastal plain, river flood plain,...) neither the spatial dimensions of hazards (dispersion, areal coverage) nor with the farming systems (dry farming, irrigation, Integrated agriculture-aquaculture, terrace system,...) [Urbano Fra.Paleo, Spain]	accepted and revised
23850	11	45	11	45	it should read hazard instead of risk [Urbano Fra.Paleo, Spain]	accepted and revised
20364	11	25			Even if it is not possible to recommend clear action of what exactly needs to be done by each country, a clearer guidance by way of examples would be great. Only then will there be a standard that policy makers have to comply with. [Petra Minnerop, United Kingdom (of Great Britain and Northern Ireland)]	Accepted and revised
23852	12	1	12	1	it is also related with the temporal dimensions of hazards such as speed of onset, frequency, regularity/randomness [Urbano Fra.Paleo, Spain]	accepted and revised
4280	12	1	12	3	I am not sure if we can use the term "predictability" for multi-annual and decal time-scales. To my knowledge, predictability within this time scales is not possible yet. [Daniel Pazmino, Ecuador]	accepted and revised
23854	12	7	12	7	and flora [Urbano Fra.Paleo, Spain]	Accepted and revised
11182	12	10	12	10	Delete 'see' [Debra Roberts, South Africa]	noted and done
23856	12	15	12	15	associated to economic contraction or expansion [Urbano Fra.Paleo, Spain]	Accepted. As suggested, we have addressed the overlaps with the other chapters
18966	12	17	12	20	This sentence is hard to understand please re-write or use commas where necessary [Aditi Khodke, Japan]	Accepted. As suggested, we have addressed the overlaps with the other chapters
21394	12	19	12	19	Why may climate change give the UK a comparative advantage? [Jony Mainaly, Nepal]	Accepted. As suggested, we have addressed the overlaps with the other chapters
4462	12	19	12	20	I don't understand how "causing domestic food production to become unsustainable" is giving "the UK a comparative advantage"? Please be more explicit with this example [Michelle North, South Africa]	Accepted. As suggested, we have addressed the overlaps with the other chapters
23858	12	21	12	21	this section is a continuation of the former (7.3.2.2) and does not make sense to open a new one [Urbano Fra.Paleo, Spain]	Accepted. As suggested, we have addressed the overlaps with the other chapters
21168	12	21	12	34	This paragraph lacks mentioning or providing any information or example to dynamics of risk for Land/desertification. This may improve its content for such a specific SRCL [Kamal Djemouai, Algeria]	accepted and revised
3746	12	22	12	22	The VHE could be introduced more formally - in a box or through reference to Chapter 1 - rather than being brought in casually through brackets. A "characterising risk" box could do a lot to pull things together succinctly and transparently. [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	accepted and revised

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
4464	12	22	12	23	Move the word 'both' as follows: "...as a result of both human and natural processes" [Michelle North, South Africa]	Accepted and revised
16048	12	23	12	23	human and natural 'processes' [Ayotomiwa Alabi, Nigeria]	Accepted and revised
23860	12	43	12	43	Risks may be reduced through adaptation, mitigation translated into policy measures [Urbano Fra.Paleo, Spain]	Accepted and revised
4458	12	10			What 'key points' ("altering behaviours at key points")? [Michelle North, South Africa]	accepted and revised
4460	12	12			"behavioural" [Michelle North, South Africa]	Accepted. As suggested, we have addressed the overlaps with the other chapters
25036	12	19			Give examples of UK having a comparative advantage. [Kirti Kusum Joshi, Nepal]	Accepted. As suggested, we have addressed the overlaps with the other chapters
4466	12	34			Add so that it reads: "...adapt to changes in their prey distribution or preferred prey species (which are affected by changes in sea surface temperatures)" [Michelle North, South Africa]	Accepted and revised
4468	12	37			Please write out ENSO in full at this first mention [Michelle North, South Africa]	Accepted and revised
6274	12	41			change: and maladaptation to and maladaptive [Abdel-Hai Benali, Algeria]	Accepted and revised
17650	12	44			still has place holder reference rather than actual reference [Paul Hudson, Germany]	Accepted and revised
26088	13	2	13	13	Needs to be specific to the land challenges, otherwise too text book like [Hans Poertner and WGII TSU, Germany]	Have reduced text-book language.
16174	13	2	13	13	It is not clear how Box 7.3 connects to the objective of this Chapter as stated in Section 7.2. Either delete the box or expand it and explain. [Lorenzo Giovanni Bellù, Italy]	accepted and revised
4470	13	2	13	13	I assume this box is incomplete? [Michelle North, South Africa]	accepted and revised
9460	13	15	13	17	Add terms 'key risks', 'substantive risks', and 'key risks' to Glossary [Minal Pathak, India]	accepted and revised
18968	13	15	13	24	The introductory paragraph is not fully developed, include more examples of emergent risks similar to SRM. [Aditi Khodke, Japan]	reorganized
6688	13	15	13	25	this section needs to improve the 'connection' between the subheading of 7.3.3 and what follows, what is 7.3.3.1 and all what follows? It would make easier to understand the subheadings under this section if a paragraph is inserted around line 25 that connects the idea of the title with what follows under sections 7.3.31 to 7.3.3.. Which of these are emergent risks? which are substantive risks? [Graciela Metternicht, Australia]	reorganized
14678	13	15	13	25	This section should improve the 'connection' between the subheading of 7.3.3 and what follows, what is 7.3.3.1 and all what follows? It would make easier to understand the subheadings under this section if a paragraph is inserted around line 25 that connects the idea of the title with what follows under sections 7.3.31 to 7.3.3.. Which of these are emergent risks? which are substantive risks? [Rattan Lal, United States of America]	reorganized
4472	13	19	13	20	I think that the sentence should end before (Trisos et al) and the citation style should change since it is starting the next sentence. [Michelle North, South Africa]	Accepted and revised
27416	13	19	13	24	It's not clear why termination of SRM is identified as an emergent risk but not the adoption of SRM. It's a highly controversial technology that should probably be left out of this report. [Doreen Stabinsky, United States of America]	Accepted and removed
3748	13	19	13	24	This is an odd place to bring in SRM - if the topic is SRM I'd place elsewhere. If it's to illustrate an emergent risk, I'd place elsewhere. [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Accepted and removed

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
4474	13	20	13	21	I do not understand what is meant by "rapid Solar Radiation Management (SRM) termination would result in rapid climate change significantly increasing the threats...", please rephrase for clarity. Do you mean that termination of SRM would result in rapid climate change, or the implementation of SRM would result in rapidly changing climate? [Michelle North, South Africa]	Accepted and noted
4958	13	17			"such as the collapse of the West Antarctic Ice Sheet" this statement should probably be referenced [Michelle North, South Africa]	accepted and revised
27430	13				This section needs to be framed and focused. The introductory framing should then provide a means of organizing the information under each of the subsections. There should be a reason for each of the subsections that is clear from the section framing and clearly related to the topic of the special report. There is a theme to this special report -- land degradation, desertification, and food security. The risks covered in this chapter are those arising from the interaction of climate change with land degradation, desertification, food security and other development pressures. For example, general comments about climate change and loss of biodiversity and ecosystem services are not useful and should be deleted. [Doreen Stabinsky, United States of America]	Accepted and revised
6030	14	1	14	1	Useful table - Suggested reference under the row on Land degradation and desertification are: East Africa: Few, R., & Tebboth, M. G. L. (2018). Recognising the dynamics that surround drought impacts. Journal of Arid Environments, (January), 0–1. https://doi.org/10.1016/j.jaridenv.2018.06.001 India: Singh, C., Rahman, A., Srinivas, A., & Bazaz, A. (2018). Risks and responses in rural India: Implications for local climate change adaptation action. Climate Risk Management. https://doi.org/10.1016/j.crm.2018.06.001 [Chandni Singh, Myanmar]	Accepted. As suggested, we have addressed the overlaps with the other chapters
6032	14	1	14	1	Useful table - Suggested reference under the row on Coastal inundation: Jain G, Singh C, Coehlo K, and Malladi T (2017) Long-term implications of humanitarian responses: The case of Chennai. IIED Working Paper, London UK. http://pubs.iied.org/pdfs/10840IIED.pdf [Chandni Singh, Myanmar]	Accepted. As suggested, we have addressed the overlaps with the other chapters
16992	14	1	14	1	Table 7.1: Hazard no. 2 Other risk of "Fluvial flooding in urban areas" may be added such as surface and ground water contamination after flooding events and loss of fresh water based food like fish [Kiran Farhan, Pakistan]	We have added this in revised table
21396	14	5	14	5	Table 7.1, line 3 under "Risk": "Loss of identity" should be replaced by "Loss of social identity". [Jony Mainaly, Nepal]	Accepted and noted
6690	14		15		Table 7.1 needs improvement. What are sacrificial agricultural lands'. The 'land degradation and desertificatio' (under land-climate-society interactions could include 'Land degradation Neutrality' as a policy response (paper of Cowie et al 2018). It is also advisable to use 'restoration and/or rehabilitation of ecosystems' (Cowie et al 2018) and Akhtar-Schuster, Mariam, Lindsay C. Stringer, Alexander Erlewein, Graciela Metternicht, Sara Minelli, Uriel Safriel, and Stefan Sommer. "Unpacking the concept of land degradation neutrality and addressing its operation through the Rio Conventions." Journal of environmental management 195 (2017): 4-15. Also in this same table under 'risks it mentions 'loss of agro and wild.' what is meant by loss of agro?; I suggest using the term 'increased' rather than 'enhanced'GHG emissions (line of permafrost destabilisation) [Graciela Metternicht, Australia]	This was a typo and we have revised it.

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
14680	14		15		Table 7.1 needs improvement. What are 'sacrificial agricultural lands'. The 'land degradation and desertification' (under land-climate-society interactions could include 'Land degradation Neutrality' as a policy response (paper of Cowie et al. 2018). It is also advisable to use 'restoration and/or rehabilitation of ecosystems' (Cowie et al. 2018) and Akhtar-Schuster, Mariam, Lindsay C. Stringer, Alexander Erlewein, Graciela Metternicht, Sara Minelli, Uriel Safriel, and Stefan Sommer. "Unpacking the concept of land degradation neutrality and addressing its operation through the Rio Conventions." Journal of environmental management 195 (2017): 4-15. Also in this same table under 'risks it mentions 'loss of agro and wild.' what is meant by loss of agro?; I suggest using the term 'increased' rather than 'enhanced' GHG emissions (line of permafrost destabilisation) [Rattan Lal, United States of America]	This was a typo and we have revised it.
25400	14	1	16	42	Table 7.1 the bullet points on Policy Response on some Hazards do not have the same depth and substance as the others. For example, Fluvial flooding in urban areas has a very detailed policy response. In contrast, Exhaustion of groundwater has one bullet that does not provide any insight into Policy Response and basically states that adaptation is needed. Ensure that the same level of thought is used on each hazard. What adaptation strategies? Be more specific [Rebecca Teasley, United States of America]	Revised and strengthened
24532	14		16		Table 7.1 needs improvement. What are 'sacrificial agricultural lands'.? The 'land degradation and desertification' (under land-climate-society interactions could include 'Land degradation Neutrality' as a policy response (see Orr et al. (2017): Scientific Conceptual Framework for Land Degradation Neutrality https://www.unccd.int/sites/default/files/documents/2017-08/LDN_CF_report_web-english.pdf ; Cowie et al. (2018): Land in balance: The Scientific Conceptual Framework for Land Degradation Neutrality (https://doi.org/10.1016/j.envsci.2017.10.011). It is also advisable to use 'restoration and/or rehabilitation of ecosystems' (Cowie et al. 2018, page 65.) and Akhtar-Schuster, Mariam, Lindsay C. Stringer, Alexander Erlewein, Graciela Metternicht, Sara Minelli, Uriel Safriel, and Stefan Sommer. "Unpacking the concept of land degradation neutrality and addressing its operation through the Rio Conventions." Journal of Environmental Management 195 (2017): 4-15. Also in this same table under 'risks it mentions 'loss of agro and wild.' what is meant by loss of agro?; Preferable to use 'increased' rather than 'enhanced' GHG emissions (line of permafrost destabilisation) [Barron Joseph Orr, Germany]	This was a typo and we have revised it.
21170	14		16		The very useful table 7.1 worth to be completed with an additional column on "geographical area(s)/localization of the identified hazards/risks according to the used reference (to ease understanding the geographical distribution of such threats and see the coverage of regions around the globe). There is also need to add to that table information on possible/potential positive results/best practices obtained through implementation of the mentioned policy responses. [Kamal Djemouai, Algeria]	noted
4478	14		16		This will likely change with later formatting, but please note that it is a lot harder to read the table with its contents justified, please rather align left. With the amount of content, it may also be easier to read if there were an empty row / space between each row of text [Michelle North, South Africa]	Accepted and noted
27418	14	2			Table should be rethought. [Doreen Stabinsky, United States of America]	Table is being revised and also to connect with Chapter 6.

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
26090	14	2			Table 7.1: This huge table come very suddenly. So far the chapter was only conceptual. Also there are cross-references to other SRCL chapter missing. [Hans Poertner and WGII TSU, Germany]	Table is being revised. We are trimming the table. And cross references to other chapters has been done.
18970	14				Forest dieback- Rewrite the reference Yichuan Shi, Adrian Hughes..... [Aditi Khodke, Japan]	Accepted. As suggested, we have addressed the overlaps with the other chapterse
17652	14				Table 7.1, title row: The definition of doesn't quite match up with the definition risk (which is the probability weighted sum of impacts). Rather what is presented is the potential impacts for which a value of risk can be calculated for [Paul Hudson, Germany]	Our table of contents are consistent with IPCC and revised IPCC definitions of risk. We have revised the table wherever this is not clear.
16994	15	1	15	1	Table 7.1: Hazard "Exhaustion of ground water" Policy response can also include alternative water supplies i.e., sea water desalination, water supply from other regions. Recent example of day zero in Cape Town due to water shortage may be quoted here. [Kiran Farhan, Pakistan]	Revised.
27428	15		16		competition for land is not a single hazard, as evidenced by the examples given. There are many reasons for land competition. It's impossible to identify policy responses if you don't have clarity about the cause of the hazard. Separate out distinct reasons for land competition. Delete plastic substitution by cellulose as it is irrelevant to the theme of this special report. [Doreen Stabinsky, United States of America]	Competition for land has been made more specific categories
18972	15				Climate change impacts on land and water including.....- Policy response ;Avoidance ? (Please elaborate) [Aditi Khodke, Japan]	Completed as advised
5514	15				In the case of hazards associated with "Exhaustion of groundwater", at the vulnerability column - remove Phoenix USA or at least indicate that it is only an example [claudio szlafsztein, Brazil]	Accepted and noted
5516	15				In the case of hazards associated with "climate change impacts on land and water including impacts of mitigations measures" - Risk columns - remove the word REGIONAL [claudio szlafsztein, Brazil]	Accepted and noted
27420	15				The entry on multi-bread basket failure is problematic. These are tthe wrong risks and the wrong policy response. The risks are large-scale global crop failures of staple crops upon which billions depend. Food price rise, starvation, migration. Those are the risks. Climate-smart agriculture is a set of agricultural practices, like drip irrigation or applying compost. To say that climate-smart agriculture is a policy response to multi-bread basket failure is like saying a response to continent-wide drought and progressive drying is drip irrigation. Policy responses include contingency planning of humanitarian response system, global scale early warning systems. [Doreen Stabinsky, United States of America]	We have revised it to add large scale crop failure in addition.
27422	15				Challinor, A. J., Adger, W. N., Benton, T. G., Conway, D., Joshi, M., & Frame, D. (2018). Transmission of climate risks across sectors and borders. Phil. Trans. R. Soc. A, 376(2121), 20170301. [Doreen Stabinsky, United States of America]	Added reference
27424	15				Tigchelaar, M., Battisti, D. S., Naylor, R. L., & Ray, D. K. (2018). Future warming increases probability of globally synchronized maize production shocks. Proceedings of the National Academy of Sciences, 201718031. [Doreen Stabinsky, United States of America]	Added reference
27426	15				Climate change impacts on land and water including impacts of mitigation measures is not a single hazard. It's a huge category. Remove. [Doreen Stabinsky, United States of America]	Agreed. Split into different categories
4476	15				In the Table, there is nothing for Exposure or Vulnerability under the hazard "Multi-bread basket failure" (unless it has shifted into the next row to fit in with "Changes in river systems", please check) [Michelle North, South Africa]	Exposure and vulnerability added
8652	16	1	16	20	for coastal inundation- Migration should be a separate point [Delphine Deryng, Germany]	Accepted and noted

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
8684	16	1	16	20	for coastal inundation-the reference used here is very outdated. See for example: Neumann et al. (2015). Future coastal population growth and exposure to sea-level rise and coastal flooding- a global assessment. PLoS one, 10(3), e0118571. [Delphine Deryng, Germany]	Accepted. As suggested, we have addressed the overlaps with the other chapters
8780	16	1	16	20	for coastal inundation- add loss of terrestrial territory to risks. [Delphine Deryng, Germany]	Accepted and added
17654	17	1	17	2	include reference at end of line, or link with following sentence's reference. [Paul Hudson, Germany]	Accepted. As suggested, we have addressed the overlaps with the other chapters
18974	17	1	17	17	Please include fire [Aditi Khodke, Japan]	accepted and revised
4282	17	2	17	4	The statement is correct, but lacks references. [Daniel Pazmino, Ecuador]	Accepted. As suggested, we have addressed the overlaps with the other chapters
4284	17	3	17	4	Heatwaves and floods can occur at the same time due to dynamical linkages (e.g. Teresa J. Parker, Gareth J. Berry, and Michael J. Reeder. The influence of tropical cyclones on heat waves in Southeastern Australia. Geophysical Research Letters, 40(23):6264–6270, 2013. ISSN 00948276. doi: 10.1002/2013GL058257) [Daniel Pazmino, Ecuador]	accepted and revised
20140	17	8	17	8	Loss of Biodiversity and Ecosystem Services??? [Sabit Erşahin, Turkey]	Comment not clear. Kindly clarify
874	17	8	17	25	There is evidence that climate change affects biodiversity in several ways (concerning extinction). See for example Pecl et al. 2017 (DOI:10.1126/science.aai9214). [Matteo Vizzarri, Italy]	Accepted. As suggested, we have addressed the overlaps with the other chapters
876	17	8	17	25	There is no mention in this section about the effects of climate change on ecosystem services. In most affected regions of the world (e.g. mountains, coastal areas, boreal regions), climate change in general reduces the functionality, stability, and adaptability of ecosystems. For example, drought affects the forest and cropland productivity, and in turn the harvesting opportunities (i.e. provisioning services). In addition, increased precipitations may reduce the capacity of forest to provide for hydrological stability (i.e. regulation and maintenance services). Furthermore, prolonged periods of high temperature may cause widespread death of trees in boreal and tundra forests, thus impacting the aethetical values of such forests (i.e. cultural services). [Matteo Vizzarri, Italy]	accepted and revised
4960	17	13	17	16	I would recommend including a placeholder for citing the Special Report on Oceans and Cryosphere here [Michelle North, South Africa]	accepted and revised
20142	17	16	17	16	Parry et al. (2007)..... [Sabit Erşahin, Turkey]	Accepted and revised
4962	17	19	17	25	This section contains very strong statements, yet only a single paper is referenced (repeatedly). It would strengthen the arguments to have more evidence of scientific backing [Michelle North, South Africa]	Revised text and table with additional citations and new case study added.
5000	17	26	17	44	Section 7.3.3.3 on the vulnerability of carbon sinks (e.g. BECCS) might be strengthened by making a clear link to Chapter 6, specifically Section 6.4.2 (Forestry-based mitigation response options) and Section 6.4.5 (BECCS). [Renee van Diemen, United Kingdom (of Great Britain and Northern Ireland)]	Accepted. This has been done
3750	17	27	17	31	As for SRM, a funny way to introduce BECCS (e.g. BECCS) is not title as it privileges one technique over another, [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Accepted. The title has been changed and is more general now (risk of land-based mitigation)
4484	17	32	17	40	Delete this sentence (repetition): "E.g. forest mortality under climate change (McDowell and Allen 2015) and wildfire (Balshi et al. 2009).", move the reference (Balshi et al. 2009) to the sentence on line 32 (after "fires"), and the reference (McDowell and Allen 2015) to the sentence on line 39 (after "due to increased temperatures"). [Michelle North, South Africa]	accepted and revised

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10448	17	33	17	33	"the permanency of carbon storage ." Is the target in the mitigation of GHG emissions to totally halt emissions, which practically will be impossible. Then the argument on the other side take also the notion to store carbon permanently. Permanent also should be a relative expression that would to a certain extent let some carbon flow in the carbon cycle. Carbon from atmosphere - biosphere - atmosphere by the level it used to be at the safest balance in time (to pre-industrial levels) of the carbon dioxide level in the atmosphere and the biosphere [Zitouni Ould-Dada, Italy]	Noted and taken into account
4480	17	3			I doubt that torrential rains are occurring "At the same time" as the droughts mentioned in the previous sentence. Flooding is affecting the drought-stricken places but usually after or between periods of drought. Please rephrase what is being said here [Michelle North, South Africa]	Accepted and noted
6276	17	10			change: Assesment 2005 to Assessment 2005 [Abdel-Hai Benali, Algeria]	accepted and revised
17656	17	16			Parry et al should be out of parenthesis [Paul Hudson, Germany]	Accepted and revised
4482	17	26			As mentioned previously, please include the full form of BECCS before using the acronym [Michelle North, South Africa]	Accepted and noted
5474	17	33			the permanency of carbon storage . Is the target in the mitigation of GHG emissions to totally halt emissions, which practically will be impossible. Then the argument on the other side is also the notion to store carbon permanently. Permanent also should be a relative expression that would to a certain extent let some carbon flow in the carbon cycle. Carbon from atmosphere - biosphere - atmosphere, by the level it used to be, at the safest balance in time (to pre-industrial levels) of the carbon dioxide level in the atmosphere and the biosphere [Daniel Danano Dale, Italy]	Taken into account. We now discuss it in terms of risk of reversal of carbon storage. E.g. risk of fire after reforestation reversing the mitigation effect
9456	18	46	8	48	Not very clear- especially the reference to plastics in the context of displacement [Minal Pathak, India]	Accepted. paragraph deleted
23862	18	2	18	2	Migrants do not choose freely but among available choices and after a balance between push and pull factors [Urbano Fra.Paleo, Spain]	Accepted and revised
23864	18	4	18	4	there is not return to normal since reconstruction efforts are temporally unequal in terms of economic sector, region, urban area, and social groups [Urbano Fra.Paleo, Spain]	Section removed. Comment no longer relevant
23866	18	4	18	4	livelihoods related to natural resources are weather dependent [Urbano Fra.Paleo, Spain]	Accepted and revised
23868	18	9	18	9	urban areas are exposed to hazards the same as rural areas, vulnerabilities differ, but urban areas accumulate more vulnerability, thus megacities may lead to megadisasters. Urban land uses are not taken into consideration, however there is food production -urban farming- in cities, and even countries such as Cuba have public policies of urban and suburban farming, as well as water use and problems of food and water security and safety [Urbano Fra.Paleo, Spain]	Accepted and revised
11184	18	10	18	10	Replace 'don't' with 'do not' [Debra Roberts, South Africa]	accepted and revised
25402	18	10	18	14	This paragraph is vague and needs more detail for clarity [Rebecca Teasley, United States of America]	accepted and revised
4488	18	13	18	14	I think there are more examples that could be included here ("health, poor building standards and mud slides etc."), that might include: overcrowding in unsanitary conditions, lack of services, unemployment, informal settlements with poor or no building standards... also, I would suggest that 'limited access to healthcare services' may be more appropriate than "health" on its own [Michelle North, South Africa]	accepted and revised
20144	18	14	18	14standards and mud slides etc. (Geddes et al. 2012; Adger et al. 2015). [Sabit Erşahin, Turkey]	Accepted and revised

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
7140	18	28	18	28	Please consider replacing the term "marginalized communities" with vulnerable communities (throughout the chapter /report). Reason: The term 'vulnerable' highlights the condition that needs to be addressed rather than the complex causalities that are referred to by the term 'marginalized'. [Mariam Akhtar-Schuster, Germany]	Accepted and revised
21398	18	32	18	33	How could solar farms and hydro-electric projects reduce socio-ecological resilience? Explanation needed. [Jony Mainaly, Nepal]	Revised text and table with additional citations and new case study added
25040	18	32	18	33	How solar farms reduce socio-ecological resilience? [Kirti Kusum Joshi, Nepal]	Revised text and table with additional citations and new case study added
25404	18	32	18	36	This paragraph is incomplete and lack detao;s needed for c;arotu [Rebecca Teasley, United States of America]	Revised and completed
27432	18	32	18	46	solar farms and hydro-electric dams seem rather outside the scope of the report. [Doreen Stabinsky, United States of America]	They are part of NDCs and impact land so we have provided the justification
23870	18	35	18	35	Land based mitigation measures does not make much sense, since all are, except those non-structural. It makes more sense to refer to structural mitigation measures. Land use planning (non structural) may regulate land use by taking into account soil fertility and plan accordingly [Urbano Fra.Paleo, Spain]	Revised text and case studies distinguishes between those that consume large quantities of land in specific biomes and strctural interventions
21424	18	39	18	44	The approach is quite limited, it makes more sense to refer to upstream-downstream partnerships in watersheds, or ridge-to-reef in islands approaches, among others [Urbano Fra.Paleo, Spain]	Revised text and case studies have citations on upstream-downstream partnerships
3752	18	46	18	47	Odd to link BECCS (not happened yet) with solar (mature technology) [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Accepted. paragraph deleted
4486	18	6			Rather include the section number instead of "(detailed below)". In this case it will be (Section 7.3.3.6) [Michelle North, South Africa]	Accepted and revised
18976	18	9			Urbanisation;this paragraph needs more development, considering the scope of the topic the write up is very brief. [Aditi Khodke, Japan]	Accepted and revised
25038	18	9			Given the growing importance of urbanization in the climate change discourse, the content of Section 7.3.3.5 is inadequate and extremely limited. Recall the IPCC viewpoint: "The fight against climate change will be won or lost in cities". [Kirti Kusum Joshi, Nepal]	Accepted and revised
6278	18	10			change: There is to There are [Abdel-Hai Benali, Algeria]	accepted and revised
5476	18	10			that people don't always move away from environmental risks, but may move towards environmental risks, due to drivers of urbanisation. I see this assertion is true. I also feel that this being the situation, it will also make us think about some of the analysis that were made earlier on the interaction between land degradation / desertification and migration to be well framed and more elaborated here with linkages referrred to the previous discussions [Daniel Danano Dale, Italy]	accepted and revised
5478	18	13			lead to exposure to - and a state of being trapped in - serious risk due to health, poor building standards and mud slides. In addition to these drawbacks, lack of shelter for most migrants as the arrive in the cities and most of them being forced to live on the streets (case of coutries from where most migrants originate), poverty, joblessness, etc [Daniel Danano Dale, Italy]	accepted and revised

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14682	18	14			Planners need to understand their cities and regions not just as economic systems, or static inventories of natural resources, but also as environmental systems that are part of regional and global networks trading goods, information, resources and pollution (Scott Campbell, 1996). Ref.: Scott Campbell, Green Cities, Growing Cities, Just Cities? Urban Planning and the Contradictions of Sustainable Development Journal of the American Planning Association, 1996 [on line]: http://www-personal.umich.edu/~sdcamp/Ecoeco/Greencities.html [Rattan Lal, United States of America]	accepted and revised
4490	18	26			I don't understand "enhance conflicts over water and land its impact on agriculture, fisheries...", please check whether there is a mistake in the wording (should possibly be "enhance conflicts over water, with impact on agriculture, fisheries...") [Michelle North, South Africa]	Accepted and revised
6280	18	30			change: , in particular to, in particular, [Abdel-Hai Benali, Algeria]	Accepted and revised
4492	18	47			Delete "such as plastics", the example has been explained ealier [Michelle North, South Africa]	Accepted and noted
6012	19	1	19	15	Text on Cascading Risk of Migration and Conflict presents an optimistic picture of migration especially lines 14-15 "Interventions under the current scenarios of millions of people migrating across frontiers are 15 already being tested successfully". This goes against what Chapter 3 says (cautions overreliance on migration as adaptation discourse). Suggestion is to nuance discussion on migration and conflict and cross-ref to Ch 3. Also, the text talks of human and non-human migration which is confusing for the reader. Some reference suggestions on human migration are below: Scheffran, J., Marmer, E., & Sow, P. (2012). Migration as a contribution to resilience and innovation in climate adaptation: Social networks and co-development in Northwest Africa. Applied Geography, 33(1), 119–127. https://doi.org/10.1016/j.apgeog.2011.10.002 Gioli, G., Hugo, G., Costa, M. M., & Scheffran, J. (2016). Human mobility, climate adaptation, and development. Migration and Development, 5(2), 165–170. https://doi.org/10.1080/21632324.2015.1096590 Singh, C., & Basu, R. (2018). Moving in and out of vulnerability: interrogating migration as an adaptation strategy along a rural urban continuum in India (under review). The Geographical Journal. [Chandni Singh, Myanmar]	accepted and revised

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
6034	19	1	19	15	Text on Cascading Risk of Migration and Conflict presents an optimistic picture of migration especially lines 14-15 "Interventions under the current scenarios of millions of people migrating across frontiers are 15 already being tested successfully". This goes against what Chapter 3 says (cautions overreliance on migration as adaptation discourse). Suggestion is to nuance discussion on migration and conflict and cross-ref to Ch 3. Also, the text talks of human and non-human migration which is confusing for the reader. Some reference suggestions on human migration are below: Scheffran, J., Marmer, E., & Sow, P. (2012). Migration as a contribution to resilience and innovation in climate adaptation: Social networks and co-development in Northwest Africa. Applied Geography, 33(1), 119–127. https://doi.org/10.1016/j.apgeog.2011.10.002 ...Gioli, G., Hugo, G., Costa, M. M., & Scheffran, J. (2016). Human mobility, climate adaptation, and development. Migration and Development, 5(2), 165–170. https://doi.org/10.1080/21632324.2015.1096590Singh, C., & Basu, R. (2018). Moving in and out of vulnerability: interrogating migration as an adaptation strategy along a rural urban continuum in India (under review). The Geographical Journal. [Chandni Singh, Myanmar]	accepted and revised
21172	19	1	19	31	Paragraph under 7.3.3.7. focus only on "Biodiversity" when "Cascading risk of migration and conflict" are more broader. They concern also socio-economic activities and services as well as a deepened/accelerated aridification/desertification of concerned areas and spaces. [Kamal Djemouai, Algeria]	accepted and revised
4494	19	6	19	8	I don't understand "and; new areas that are suitable for migrating biodiversity under changed climate but may be occupied by migrating humans under climate and land degradation stress". What is 'migrating biodiversity'? I suggest rewording this point, including the first one ("movement into areas that are suitable for biodiversity now and in the future") which is also not very clear (migrant humans are occupying land that could become a biodiversity reservoir, thus displacing animals?. [Michelle North, South Africa]	Accepted and revised
4496	19	10	19	11	Modify to read: "conserving biodiversity in a changing climate includes population restoration methods including: reintroduction and reinforcement..." [Michelle North, South Africa]	Accepted and noted
4502	19	10	19	31	I don't understand how biodiversity can migrate, surely it is the species that together make up biodiversity that migrate? Similarly for "...introduction of non-native biodiversity..." - this doesn't make sense, rather refer to the introduction of non-native species to improve biodiversity in rapidly changing regions... please consider rephrasing these sections [Michelle North, South Africa]	accepted and revised
4498	19	18	19	19	Modify to read: "be more complicated for aquatic systems than for terrestrial ones..." [Michelle North, South Africa]	accepted and revised
21400	19	20	19	20	The use of term "east-west" seems contextual (probably geographical) but no explanation is given. [Jonny Mainaly, Nepal]	accepted and revised
11186	19	23	19	23	What does EEDS mean? This was used only once in this chapter. Please remove acronym [Debra Roberts, South Africa]	accepted and revised

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
21426	19	29	19	31	Integrating Social Sciences in monitoring, analysis and modelling with a interdisciplinary approach, but it should go beyond with a transdisciplinary approach by integrating the conflicting views of the multiple societal actors/stakeholders through public participation (pointed in pages 29, 61 or 65 lines 19-23 and section in page 66 line 31). Policy evaluation is also a process for social interaction, that contributes to raise awareness, social learning and to integrate various forms of knowledge and those conflicting views and reach social consensus See http://www.scopus.com/inward/record.url?eid=2-s2.0-84943338994&partnerID=MN8TOARS and https://link.springer.com/chapter/10.1007/978-94-007-7981-5_9 [Urbano Fra.Paleo, Spain]	Accepted and added.
3754	19	33	19	33	There is little specifically on land-climate in this section [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Noted. Section is revised in SOD
18534	19	36	19	40	The reference to global markets as a source of systemic risk for food systems with implications for food security is quite a significant. But may need more elaboration and supportive evidence. (may want to check the findings of a forthcoming FAO flagship publication State of World Commodities 2018 - on agricultural trade, food security and climate change; due for release in September 2018 - about the time of the LAM3) [Aziz Elbehri, Italy]	Noted, thank you. This section has been revised considerably and that particular paragraph removed but we may refer to the FAO study in another section
27436	19	34	20	12	Challinor, A. J., Adger, W. N., Benton, T. G., Conway, D., Joshi, M., & Frame, D. (2018). Transmission of climate risks across sectors and borders. <i>Phil. Trans. R. Soc. A</i> , 376(2121), 20170301. [Doreen Stabinsky, United States of America]	Noted and added
27438	19	34	20	12	Tigchelaar, M., Battisti, D. S., Naylor, R. L., & Ray, D. K. (2018). Future warming increases probability of globally synchronized maize production shocks. <i>Proceedings of the National Academy of Sciences</i> , 201718031. [Doreen Stabinsky, United States of America]	Noted and added
18536	19	48	20	12	For evidence on how to manage global production shocks and buffer stocks to address climate induced price and supply variability ,the authors may want to contact the FAO's Trade and Markets Division and inquire about available FAO reports and studies on the subject (this should be considered as the report evolves into Second order draft). [Aziz Elbehri, Italy]	Noted, thank you
27434	19	33	21	3	This section is not coherent in its content and should be split into multiple sections each with their own topic. For example, a specific section on food system shocks and multi-bread basket failures could be created here. [Doreen Stabinsky, United States of America]	Accepted. Section revised
15958	19	3	22	34	Would be useful to consider the economic implications of climate change-related health risks. [Debra Roberts, South Africa]	We have added some text in this section relating to the economic implications of climate on health
11190	19	34	22	3	Would be useful to consider the economic implications of climate change-related health risks. [Debra Roberts, South Africa]	We have added some text in this section relating to the economic implications of climate on health
5518	19	23			the meaning of the acronym EEDS was not explained elsewhere in the text [claudio szlafsztein, Brazil]	accepted and revised
4500	19	23			Please explain EEDS in full [Michelle North, South Africa]	accepted and revised
20302	19	29			I am not sure whether the role of social sciences is very clear at the end of this paragraph. There is no doubt that social sciences play an important part, however, the relation to assisted migration of biodiversity or the introduction of non-native biodiversity, the benefits of social sciences will depend largely on other sciences. It could be beneficial to stronger emphasise the responsibilities and the contribution of each science. [Petra Minnerop, United Kingdom (of Great Britain and Northern Ireland)]	accepted and revised
4504	19	42			Replace "increase" with "alter" or "affect" so that it matches the remaining items in the list [Michelle North, South Africa]	We have added some text in this section relating to the economic implications of climate on health

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4506	19	43			"impact negatively upon human health..." or "have negative impacts on human health", or "impact human health negatively" [Michelle North, South Africa]	Accepted and noted
11648	19	45			On the other hand, public health is at the mercy of many human systems (industry, transport, energy, water, etc) which are vulnerable to climate change, so that the insulating structures themselves are highly vulnerable, as in fact evidence shows plainly. [Debra Roberts, South Africa]	Accepted. Section revised.
9462	20	19	20	19	roofs in urban centres' - doesn't fit well with other land changes (e.g. impervious surfaces) [Minal Pathak, India]	Accepted and revised
4286	20	40	20	40	Grammatical error: "...will increases.." [Daniel Pazmino, Ecuador]	Accepted and revised
20308	20	40	41		deforestation will increase or increases malaria? The paragraph is a bit unclear, maybe, I could not quite work out the result, how is the relation between land use and malaria. What is edge effect (line 44)? It would be great to know where there is enough scientific evidence and where it is not, so maybe there could a table indicating the relation between risks and evidence, in form of a summary? [Petra Minnerop, United Kingdom (of Great Britain and Northern Ireland)]	Noted. Will be addressed in the health case study.
5520	20	20			THERE IS AN ERROR IN THE TEMPERATURE VALUES INDICATED BY THE REFERENCE FRUMKIN 2002 " Produce 30 C to 40 C..." [claudio szlafsztein, Brazil]	Not clear. does it mean 3 and 4?
4508	20	20			"produce 30°C to 40°C difference from surrounding air" - please check whether those numbers are correct, they seem incredibly high [Michelle North, South Africa]	accepted and revised
6282	20	33			change: deaths for climate to deaths from climate [Abdel-Hai Benali, Algeria]	accepted and revised
6284	20	40			change: will increases malaria to will increase malaria [Abdel-Hai Benali, Algeria]	accepted and revised
4510	20	40			Delete "will" so that it reads "deforestation increases malaria..." [Michelle North, South Africa]	Accepted and noted
20290	20	40			deforestation will increase or increases malaria? The paragraph is a bit unclear, maybe, I could not quite work out the result, how is the relation between land use and malaria. What is edge effect (line 44)? It would be great to know where there is enough scientific evidence and where it is not, so maybe there could a table indicating the relation between risks and evidence, in form of a summary? [Petra Minnerop, United Kingdom (of Great Britain and Northern Ireland)]	accepted and revised
3756	21	4	21	4	A lot of this is off-topic. About economics of climate change in general - and lines 38-40 are about oceans [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Noted and revised
60	21	7	21	7	one study: please cite [Nathalie Jeanne Marie Hilmi, France]	The citations at the end of the sentence refer to the study
11188	21	11	21	11	Delete 'USD' after '2007' [Debra Roberts, South Africa]	Accepted and revised
62	21	26	21	26	Relation between CO2 and economic growth. Topics in Middle Eastern and North African Economies - Volume 20, Number 2, September 2018 : Decoupling Economic Growth and CO2 Emissions in the MENA: Can It Really Happen ? http://meea.sites.luc.edu/volume20/PDFs/2.1.%20HILMI_Article_Decoupling%20Economic%20Growth%20and%20CO2%20Emissions.pdf [Nathalie Jeanne Marie Hilmi, France]	Noted, thank you, although we do need to focus on the land sector
4288	21	29	21	30	A time period or final year is missing from this statistic. [Daniel Pazmino, Ecuador]	accepted and revised
64	21	30	21	30	Burke et al. 2015: everywhere or in coral reefs areas only [Nathalie Jeanne Marie Hilmi, France]	accepted and Clarified (the value is average global incomes)

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66	21	33	21	34	Can those effects be positive or negative only? [Nathalie Jeanne Marie Hilmi, France]	Clarified (the higher magnitudes refer to more negative costs) but sentence subsequently deleted
4290	21	37	21	37	Grammatical error: Right parenthesis missing. [Daniel Pazmino, Ecuador]	noted and revised
20146	21	37	21	37	.....than 1.5°C (Li et al. 2018). [Sabit Erşahin, Turkey]	noted and revised
16176	21	4	23	35	Section 7.3.4 deals with economic costs but ignores literature, in particular recent one on estimates of climate change damage functions. Please refer to the work of Santori Martina and Roberto Roson on "Estimation of climate change damage functions for 140 regions in the GTAP9 database" (available at https://www.gtap.agecon.purdue.edu/resources/res_display.asp?RecordID=4910) and to work cited in this paper and follow ups. [Lorenzo Giovanni Bellù, Italy]	Noted, thank you. We require peer reviewed journal articles however I will follow up some of the references in the report suggested
510	21	4			The title "Economic Costs" is unclear. I would suggest "Economic aspects". There are economic opportunities, of course [Dror Etzion, Canada]	Noted, section has been restructured
4512	21	7			Is this "value of ecosystem services" global or only in the USA? [Michelle North, South Africa]	Noted and clarified
4514	21	11			There is an unnecessary additional "USD" before the reference, please delete [Michelle North, South Africa]	Accepted and revised
11650	21	14			The problem of valuation is not just about perceived / subjective value but also actual value. Valuation problems also apply to ecosystem services, which are always guaranteed to be undervalued, because their full complexity is not appreciated and usually not known, even by specialists. Ignorance re for example the extent to which insect pests and disease vectors are naturally controlled by other insects, the extent to which ecosystems depend on native vegetation, or ecosystem processes involving small and microscopic fauna and flora – is evidenced by suggestions for novel ecosystems, using exotics to replace native biodiversity, and other thoroughly ill-advised 'adaptations and mitigations' (page 19 line 24). The problem is that often we do not know the extent of our ignorance, and thus the true risks of our actions. This means we need to be conservative in our choice of adaptation and mitigation options but radical in our efforts to employ safe and no-regret options. This comes up again on page 25 line 10. The value of ecosystems may be 'well recognised' but not fully understood or appreciated - by far. The absolute (as opposed to subjective) value needs to be demonstrated. [Debra Roberts, South Africa]	Noted. Will be addressed in the health case study.
512	21	14			Here I suggest a sub-section entitled "Monetary losses". [Dror Etzion, Canada]	Noted but section is being restructured in SOD
6286	21	16			change: impacts for society to impacts on society [Abdel-Hai Benali, Algeria]	Accepted and revised
11192	22	4	22	9	Good but what is the linkage to land? [Debra Roberts, South Africa]	Noted, section is being rewritten to focus more on land
9658	22	10	22	10	The results show that the annual costs of land degradation due to land use and land cover change (LUCC) are about US\$231 billion per year or about 0.41 % of the global GDP of US\$56.49 trillion in 2007. REF: Nkonya E. et al. (2016) Global Cost of Land Degradation. In: Nkonya E., Mirzabaev A., von Braun J. (eds) Economics of Land Degradation and Improvement – A Global Assessment for Sustainable Development. Springer, Cham [Markus Giger, Switzerland]	Excellent, thank you!

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1440	22	20	22	25	The discussion of costs could be rounded out with better reference to the cost of ag development and poverty-fighting interventions, especially in agriculture/nutrition/food security, rather than solely focusing on costs for DRR or early humanitarian action. Ideally, food insecure populations are supported further upstream to build their resilience and move out of poverty before crisis hits. The need for humanitarian response is a sign not only of a shock but of failure to build people's resilience to that shock. (to echo the health discussion which is of _prevention_ of diseases) Where there are evidence gaps, this should be noted. See also IFPRI: http://www.ifpri.org/publication/ending-hunger-what-would-it-cost and IISD: http://www.iisd.org/sites/default/files/publications/ending-hunger-what-would-it-cost.pdf . While not comparative in and of themselves, these studies offer estimates for ending hunger and/or malnutrition that can be considered with the cost of humanitarian response. Authors might also consider cost-benefit analysis of community-based adaptation here: https://www.nefconsulting.com/economic-evaluation-community-based-adaptation-dakoro-niger/ and Social ROI on a gendered approach to agricultural development: http://www.care.org/sites/default/files/documents/nef_social_cost_benefit_analysis_of_path_ways.pdf [Tonya Rawe, United States of America]	Noted, thank you, we need to cite peer reviewed literature, but have attempted to round the discussion out more in this regard
4518	22	20	22	36	This paragraph, in a highly summarized form, could be a good addition to the SPM [Michelle North, South Africa]	Noted
25042	22	41	22	43	Meaning of the sentence is unclear -- how is it related to the preceding sentence? [Kirti Kusum Joshi, Nepal]	Noted and rephrased
16178	22	11	23	35	For all the costs estimates you are naming please provide information on the counterfactual (or reference situation) and on the time. For example, you write: "In Ethiopia, Kenya and Somalia every 1 USD spent on safety net/resilience programming results in net benefits of between 2.3 and 3.3 USD" When do you get these benefits? every year? the year of the research? which is this year? and compared to what? to a situation 0 USD are spent for safety net/resilience? how is this counterfactual situation built/observed? [Lorenzo Giovanni Bellù, Italy]	Noted - however it is not always possible to provide the counterfactual
514	22	11	23	37	I suggest breaking this down into costs of adaptation vs. costs of mitigation [Dror Etzion, Canada]	Noted will consider, although the entire section is being restructured for SOD
17658	22	10			still contains the placeholder text [Paul Hudson, Germany]	Noted - this will be changed for the second order draft
4516	22	15			I would recommend not including emotive language like "huge values" when discussing the cost of adaptation. These values, while indeed huge, are no more nor less 'huge' than the costs of the impacts of climate change, as discussed in the previous page. By including the emotive language here, you are prejudicing any uncertain or anti-climate change reader to latch onto just 'how incredibly expensive it is going to be to implement these changes based on the pet theory of a couple of scientists', or similar. [Michelle North, South Africa]	Noted and revised
6288	22	27			change: Modeling of household to Modelling of household [Abdel-Hai Benali, Algeria]	Noted and changed
4520	22	39			"crises" (plural) rather than "crisis" [Michelle North, South Africa]	Noted and changed
23872	23	12	23	12	According to the proactive approach -as claimed in page 43- there is not pre and post-event action, since all actions are permanently oriented to risk avoidance and risk reduction [Urbano Fra.Paleo, Spain]	Noted and revised
4292	23	17	23	17	Also increases the challenges for adaptation. [Daniel Pazmino, Ecuador]	Noted and added
68	23	17	23	17	potentially reduces future economic growth [Nathalie Jeanne Marie Hilmi, France]	Noted and changed

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70	23	28	23	33	How to evaluate the costs when the effects of climate change are not known with certainty on the society and economy. [Nathalie Jeanne Marie Hilmi, France]	Noted and considered
302	23	34	23	34	Information under Case Study – Indonesia (Mercy Corps Indonesia and EcoMetrix Solutions Group 2018) is NOT given [Santosh Kumar Mishra, India]	Noted
21402	23	46	23	47	"... three additional goals" -- some background is needed about these three goals. [Jony Mainaly, Nepal]	Accepted. Supporting text for this is in section 7.5.7.3.
4522	23	12			"action" appears twice in one phrase, choose which is best and delete the other [Michelle North, South Africa]	Noted and revised
4964	23	13			There is something wrong with this reference: (Clarke, Daniel; Dercon 2016), please check. [Michelle North, South Africa]	Noted and corrected
17660	23	35			still contains the placeholder text [Paul Hudson, Germany]	Noted
3478	23	38			chapter helpful? [Cordula Ott, Switzerland]	Accepted. As Suggested, we have addressed the overlaps with the other chapters
4524	24	1	24	2	The sentence "Within the bubbles a number appears; in the box below the figure these numbers appear with the associated references supporting the bubble." repeats what was said in line 45/46 (page 23), please combine these two sentences to avoid redundancy [Michelle North, South Africa]	Accepted. As Suggested, we have addressed the overlaps with the other chapters
27440	24	1	24	5	This figure is not useful. [Doreen Stabinsky, United States of America]	Noted. We revised the figure and moved to more relevant position (7.5.7).
6014	24	2	24	2	This figure is very interesting and I look forward to seeing it developed further. Few minor issues of some bubbles being cut off and reference numbers getting mixed up but overall this looks very useful. Will need further work on demonstrating what each bubble denotes. [Chandni Singh, Myanmar]	Accepted and revised
11194	24	2	24	3	Figure 7.1 [Debra Roberts, South Africa]	Accepted. As suggested, we have addressed the overlaps with the other chapters
11196	24	2	24	3	Figure 7.1 is quite difficult to understand [Debra Roberts, South Africa]	Accepted. As suggested, we have addressed the overlaps with the other chapters
3758	24	4	24	4	I do not think this figure communicates, A table, one line per SDG, with columns for uncertainty, scale and disagreement + an aggregate score column would be more transparent. It's impossible to read easily. [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Accepted. As suggested, we have addressed the overlaps with the other chapters

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
19068	24	6	24	12	<p>According to the ipcc report and the need to provide more material on the effects of climate change on health, it is suggested that a section titled "Climate change and health effects" be added to the report: climate change and health effects</p> <p>Due to climate change, many climate hazards and extreme weather events, such as heat waves, heavy rainfall and droughts, could become more frequent and more intense in many parts of the world. Human health is profoundly affected by weather and climate. Climate change threatens to exacerbate today's health problems – deaths from extreme weather events, cardiovascular and respiratory diseases, infectious diseases and malnutrition – whilst undermining water and food supplies, infrastructure, health systems and social protection systems.</p> <p>Many of the drivers of climate change, such as inefficient and polluting forms of energy and transport systems, also contribute to air pollution. Air pollution is now one of the largest global health risks, causing approximately seven million deaths every year. There is an important opportunity to promote policies that both protect the climate at a global level, and also have large and immediate health benefits at a local level. Health co-benefits are local, national and international measures with the potential to simultaneously yield large, immediate public health benefits and reduce the upward trajectory of greenhouse gas emissions. Lower carbon strategies can also be cost-effective investments for individuals and societies. Presented here are examples, from a global perspective, of opportunities for health co-benefits that could be realized by action in important greenhouse gas emitting sectors.</p> <p>References Shindell, D., et al, Simultaneously mitigating near-term climate change and improving human health and food security Science, 2012 . JJ Owen, WL Silver, Greenhouse gas emissions from dairy manure management: a review of field-based studies Greenhouse gas emissions from dairy manure management: a review of field-based studies, Global Change Biology, 2015. ,World Health Organization, Investing to overcome the global impact of neglected tropical diseases third WHO report on neglected tropical diseases 2015 Human dynamics of climate change, technical report, Met Office, HM Government, UK, 2014 World Health Organization, Ambient air pollution: A global assessment of exposure and burden of disease, [Abbas Shahsavani, Iran]</p>	Accepted. As suggested, we have addressed the overlaps with the other chapters
4296	24	8	24	10	Numbering error: Limits and barriers to adaptation is numbered 7.4.1 and multilevel response to risk 7.4.5. [Daniel Pazmino, Ecuador]	Accepted. As suggested, we have addressed the overlaps with the other chapters and content of sections.
20552	24	8	24	10	1. The chapters and headings in parentheses in this paragraph do not correspond to the following subsections and headings. [Huai Jianjun, China]	Accepted. As suggested, we have addressed the overlaps with the other chapters and headings
1442	24	8	24	10	The section names and numbers are mismatched [Tonya Rawe, United States of America]	Accepted. As suggested, we have addressed the overlaps with the other chapters and headings
4528	24	8	24	11	Section 7.4.1 is incorrectly cited in the previous paragraph (it says that Multilevel response to risk is supposed to be section 7.4.5) - please fix all these section references [Michelle North, South Africa]	Accepted and revised
21404	24	14	24	15	"...impacts of climate change vary from region to region" -- add " and even within a region". [Jony Mainaly, Nepal]	Accepted and revised
4294	24		24		The SGG figure is difficult to read. I suggest enhancing the resolution. [Daniel Pazmino, Ecuador]	Accepted. As Suggested, we have addressed the overlaps with the other chapters
9464	24		24		The meeting scoping report mentions integrated response to urbanization for effective risk management, reduced emissions and sustainable development. Perhaps could include in 7.4 [Minal Pathak, India]	Accepted. As Suggested, we have addressed the overlaps with the other chapters

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1444	24	11	25	33	As a section on multi-level policy, a more thorough discussion of governance and stakeholders - and the policy response in terms of HOW policy is made (i.e. in more inclusive fashion to facilitate addressing inequality, flagged as a key issue in box 7.1 from previous IPCC reports) -- warrants further discussion. The focus on food systems of the special report and the SDGs as a matrix of goals also calls for more thorough discussion of policies at multiple levels, in part to balance to emphasis on ecosystems/biodiversity in this section. Re: Line 5, "The immediate challenge is..." -- it isn't clear why this is the immediate challenge, and others may posit other immediate challenges in the land/climate interaction. [Tonya Rawe, United States of America]	Accepted and covered in 7.6
18900	24	7	60	16	how to linking with other chapters in this report is important [Jianguo Wu, China]	Accepted. Links with other chapters developed
6692	24	2			Figure 7.1 is confusing; and it is also concerning that no mention is done on how the 'scaling' of the different axes was done. It explain the scale used, but no mention of the approach (expert elicitation? Review of literature?). [Graciela Metternicht, Australia]	Accepted and revised
14684	24	2			Figure 7.1 is confusing; and it is also concerning that no mention is done on how the 'scaling' of the different axes was done. It explain the scale used, but no mention of the approach (expert elicitation? Review of literature?). [Rattan Lal, United States of America]	Accepted and revised
26092	24	3			Where does the data for this figure come from? Please specify [Hans Poertner and WGII TSU, Germany]	accepted and revised
4526	24	3			Figure 7.1: Axes labels need to be moved further away from the axes to avoid overlap with the bubbles and numbers. Rather have the bubbles different shades of colour and have the graph background clear with pale grey lines, instead of grey with white lines. The numbers inside the bubbles don't entirely make sense, they aren't really inside any particular bubble but overlap with the graph background, try to ensure they stay within their bubble (why don't all bubbles have numbers?). The graph itself could be larger with the scale bar smaller; the UN SDGs aren't legible, maybe have this part of the figure larger and ensure you have a clear copy. Is there any way of referencing the case studies used to compile the figure, somehow? [Michelle North, South Africa]	accepted and revised
3480	24	4			Figure helpful? [Cordula Ott, Switzerland]	Accepted. As suggested, we have addressed the overlaps with the other chapters
26094	24	11			This section is titles 'multi-level'. However, the content mainly refers to higher level frameworks, and not to local levels of responses and policies. What does local level even mean here? The different levels could be specified in this section. [Hans Poertner and WGII TSU, Germany]	Accepted and revised
4530	25	1	25	3	Why are "climate change", "levels" and "plans" italicized? [Michelle North, South Africa]	Accepted. Italics deleted
21406	25	3	25	3	Replace "national policy frameworks" by "national/sub-national policy frameworks". [Jony Mainaly, Nepal]	Accepted and revised.
27442	25	5	25	7	This is a special report on desertification, land degradation, and food security. The authors of the chapter need to consistently keep this in the front of their minds. It is not clear at all why, in this context, "the immediate challenge is incorporating ecological restoration and biodiversity concerns in top down NDC and SDG climate mitigation and adaptation targets." One consistently feels as if they are reading a completely different report in this chapter than the one that Parties have requested. [Doreen Stabinsky, United States of America]	Accepted. Chapter rewritten focusing on desertification, land degradation and

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4532	25	20	25	22	What does "CBD" stand for? Please write out in full. Same for UNFCCC and UNCCD [Michelle North, South Africa]	Accepted. Revised
7142	25	21	25	22	Please consider removing the concept of "Zero Net Land Degradation" and replacing it with the term Land Degradation Neutral World (LDNW) for the following reasons: (1) SDG 15.3 talks about striving to achieve a land degradation neutral world. (2) The discussions within the UNCCD inspired the evolution of the terminology from Zero Net Land Degradation to Land Degradation Neutrality. For further reading on this matter see: Safriel, U. (2017). Land Degradation Neutrality (LDN) in drylands and beyond - where has it come from and where does it go. <i>Silva Fennica</i> vol. 51 no. 1B article id 1650. 19 p. https://doi.org/10.14214/sf.1650 . [Mariam Akhtar-Schuster, Germany]	Accepted and revised
24534	25	22	25	29	This paragraph requires updating and re-writing. The expression "Zero Net Land Degradation (ZNLN)" is no longer used. All references to "ZNLN" should be changed to "LDN" -- LDN is the term of art agreed to by Member States and used since Rio+20. After the adoption of the SDGs, the UNCCD has adopted the concept of 'striving to achieve a land degradation neutral world', and the term associated to approach promoted is Land Degradation Neutrality (LDN). Text of Aronson and Alexander has been superseded by more recent and relevant literature like: Akhtar-Schuster, Mariam, Lindsay C. Stringer, Alexander Erlewein, Graciela Metternicht, Sara Minelli, Uriel Safriel, and Stefan Sommer. "Unpacking the concept of land degradation neutrality and addressing its operation through the Rio Conventions." <i>Journal of environmental management</i> 195 (2017): 4-15.; Okpara, U. T., Stringer, L. C., Akhtar-Schuster, M., Metternicht, G. I., Dallimer, M., & Requier-Desjardins, M. (2018). A social-ecological systems approach is necessary to achieve land degradation neutrality. <i>Environmental Science & Policy</i> , 89, 59-66. Cowie, Annette L., Barron J. Orr, Victor M. Castillo Sanchez, Pamela Chasek, Neville D. Crossman, Alexander Erlewein, Geertrui Louwagie et al. "Land in balance: The scientific conceptual framework for Land Degradation Neutrality." <i>Environmental Science & Policy</i> 79 (2018): 25-35. It is not clear where that number of 150 million ha comes from. It would be better the authors consult the UNCCD Global Land Outlook (https://knowledge.unccd.int/sites/default/files/2018-06/GLO%20English_Full_Report_rev1.pdf) and the latest latest decisions of the UNCCD COP (13). The SDG 15.3 does not put a number on the number of hectares to be restored/rehabilitated. REWRITE and consult the IPBES LDRA (https://www.ipbes.net/assessment-reports/ldr) and WAD (https://wad.jrc.ec.europa.eu/) final text. [Barron Joseph Orr, Germany]	accepted and revised

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6694	25	22	25	29	This paragraph requires updating and re-writing. The concept of Zero Net Land Degradation is no longer used. After the adoption of the SDGs, the UNCCD has adopted the concept of 'striving to achieve a land degradation neutral world', and the term associated to approach promoted is Land Degradation Neutrality. Text of Aronson and Alexander has been superseded by more recent and relevant literature like: Akhtar-Schuster, Mariam, Lindsay C. Stringer, Alexander Erlewein, Graciela Metternicht, Sara Minelli, Uriel Safriel, and Stefan Sommer. "Unpacking the concept of land degradation neutrality and addressing its operation through the Rio Conventions." Journal of environmental management 195 (2017): 4-15.; Okpara, U. T., Stringer, L. C., Akhtar-Schuster, M., Metternicht, G. I., Dallimer, M., & Requier-Desjardins, M. (2018). A social-ecological systems approach is necessary to achieve land degradation neutrality. Environmental Science & Policy, 89, 59-66. Cowie, Annette L., Barron J. Orr, Victor M. Castillo Sanchez, Pamela Chasek, Neville D. Crossman, Alexander Erlewein, Geertrui Louwagie et al. "Land in balance: The scientific conceptual framework for Land Degradation Neutrality." Environmental Science & Policy 79 (2018): 25-35. It is not clear where that number of 150 million ha comes from. It would be better the authors consult the UNCCD Global Land Outlooks and the latest latest decisions of the UNCCD COP (13). The SDG 15.3 does not put a number on the number of hectares to be restored/rehabilitated. REWRITE and consult the IPBES LDRA final text. [Graciela Metternicht, Australia]	accepted and revised
14686	25	22	25	29	This paragraph requires updating and re-writing. The concept of Zero Net Land Degradation is no longer used. After the adoption of the SDGs, the UNCCD has adopted the concept of 'striving to achieve a land degradation neutral world', and the term associated to approach promoted is Land Degradation Neutrality. Text of Aronson and Alexander has been superseded by more recent and relevant literature like: Akhtar-Schuster, Mariam, Lindsay C. Stringer, Alexander Erlewein, Graciela Metternicht, Sara Minelli, Uriel Safriel, and Stefan Sommer. "Unpacking the concept of land degradation neutrality and addressing its operation through the Rio Conventions." Journal of environmental management 195 (2017): 4-15.; Okpara, U. T., Stringer, L. C., Akhtar-Schuster, M., Metternicht, G. I., Dallimer, M., & Requier-Desjardins, M. (2018). A social-ecological systems approach is necessary to achieve land degradation neutrality. Environmental Science & Policy, 89, 59-66. Cowie, Annette L., Barron J. Orr, Victor M. Castillo Sanchez, Pamela Chasek, Neville D. Crossman, Alexander Erlewein, Geertrui Louwagie et al. "Land in balance: The scientific conceptual framework for Land Degradation Neutrality." Environmental Science & Policy 79 (2018): 25-35. It is not clear where that number of 150 million ha comes from. It would be better the authors consult the UNCCD Global Land Outlooks and the latest latest decisions of the UNCCD COP (13). The SDG 15.3 does not put a number on the number of hectares to be restored/rehabilitated. REWRITE and consult the IPBES LDRA final text. [Rattan Lal, United States of America]	accepted and revised
72	25	40	25	40	Typo: Pannell, 2008 [Nathalie Jeanne Marie Hilmi, France]	Rejected. Standard referencing of IPCC used

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
1454	25	40	26	13	The framework may also miss differences in positive/negative impacts among different populations. At a macro scale, public/private may be useful, but consideration should be given not only to temporal differences but also differences among, say, men and women or marginalized and those with more power in decision-making/access to resources. Consideration of these other facets will inform better design of policy instruments to address risk and help ensure that gaps in access aren't widened and that those most in need can access risk management options appropriate to their context. [Tonya Rawe, United States of America]	Accepted. Covered in gender box and participation and social learning
16180	25	34	27	18	Section 7.4.2 on policy instruments responding to risk reads very interesting but lacks considerations on 1) how the policies and instruments named can be funded and by whom (e.g. how to finance safety nets?), 2) perhaps undesirable side-effects these instruments may have (e.g. what are the implications of market instruments on the markets and eventually on welfare?) and 3) on practical issues on implementing these policies (e.g. how recipients of microfinance programmes can be identified? and how to distribute payments?). Please consider that sometimes creating the incentives for private investments may have a more long-lasting and sustainable effect. On the latter you may also get inspiration from work on investment needs to ensure zero hunger such as the FAO, IFAD and WFP 2015 report on "Achieving Zero Hunger: the critical role of investments in social protection and agriculture" (available at http://www.fao.org/3/a-i4951e.pdf). [Lorenzo Giovanni Bellù, Italy]	Accepted. Innovative financing approaches in section addresses
3760	25	34	52	11	This is an almost absurd length for a third level section. Much of it appears to be beyond scope. Either it talks about climate policy mechanisms without any reference to land, or talks about land issues (e.g. NZLD) with little reference to climate. The internal 4th level structure mixes categories - food security, SLM, energy access, hazards, GHG fluxes etc. I just got lost in this section and didn't know where it was going. There is low relevance material that could come out and re-visit of internal structure could be called for. [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Accepted. Reorganized and rewritten.
14688	25	4			All research projects should include a cultural product of immediate benefit and use to the community (Scheyvens, R. et al.). Ref.: Scheyvens, R. et al., Working with Marginalised, Vulnerable or Privileged Groups [on line]: https://www.corwin.com/sites/default/files/upm-binaries/9590_019859Ch9.pdf [Rattan Lal, United States of America]	Rejected. Outside the scope of this chapter and category. Outside the scope of this chapter
17662	25	17			unclear terminology – define wicked problem [Paul Hudson, Germany]	Accepted. Revised
4966	25	25			What is "(ibid.)" meant to reference? Please correct [Michelle North, South Africa]	Accepted and revised
4534	25	30			Please write out IPBES in full at first mention [Michelle North, South Africa]	Accepted and revised
25044	25	40			Better to replace "public net benefits" by "public (social) net benefits" for more clarity. [Kirti Kusum Joshi, Nepal]	Accepted and revised
11654	25	42			Did you mean “, and whether incentives are positive or negative”? Since benefits presumably are always positive? [Debra Roberts, South Africa]	Accepted and revised
6290	25	46			change: and many adaptation to and many adaptations [Abdel-Hai Benali, Algeria]	Accepted and revised
4536	26	11	26	13	Please include the section number rather than these references to page numbers to be consistent with other reports [Michelle North, South Africa]	Accepted and revised
11198	26	14	26	14	Consider replacing 'Thereby' with 'Therefore' [Debra Roberts, South Africa]	Accepted and revised

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
8782	26	15	26	26	Would be helpful to explain the differences between the different components of comprehensive risk management and also to identify that insurance falls under the risk transfer component. [Delphine Deryng, Germany]	Accepted and risk management section revised
21428	26	19	26	19	Comprehensive risk management is too narrow, since it involves all dimensions of decision making, including policy design, implementation, and management. It is multiactor and multilevel, this is how it should be referred to as risk governance (See Renn or Fra.Paleo in http://www.scopus.com/inward/record.url?eid=2-s2.0-84943338994&partnerID=MN8TOARS) Some dimensions are missing, such as risk monitoring and particularly risk avoidance, that prevents risk from emerging, basically through land use planning, a strategy that is not taken into consideration in the report despite being a key instrument in risk governance. It is a key instrument because it avoids exposure and prevents risk from emerging. All other actions included in the report can be integrated into disaster risk reduction (including mitigation and adaptation). When addressing wildfire as a hazard, the issue of and approaches to planning the Wildland–urban interface should be taken into consideration, particularly because land use planning is a key policy instrument. [Urbano Fra.Paleo, Spain]	Accepted and revised and cofUniepted and revised
23874	26	21	26	21	Risk education does not fit into this structure because it has influence on knowledge and subsidiarily on awareness and ultimately on choice. Not only managerial instruments can be participatory but also the other ones. [Urbano Fra.Paleo, Spain]	Unclear change requested by comment
21430	26	36	26	47	Policy should be a combination of structural and non structural measures in all cases, <u>discounting the frequency of events</u> [Urbano Fra.Paleo, Spain]	Accepted and revised
6016	26	42	27	2	Sec 7.4.2 as a whole is very well written. For some more insights on comprehensive risk management, the need for it to be layered and sequential to capture spatio-temporal dynamics, can consider the following papers: Singh, C., Rahman, A., Srinivas, A., & Bazaz, A. (2018). Risks and responses in rural India: Implications for local climate change adaptation action. <i>Climate Risk Management</i> . https://doi.org/10.1016/j.crm.2018.06.001 Eakin, H. C., M. C. Lemos, and D. R. Nelson, 2014: Differentiating capacities as a means to sustainable climate change adaptation. <i>Glob. Environ. Chang.</i> , 27, 1–8, doi:10.1016/j.gloenvcha.2014.04.013. Singh, C et al (2018) What shapes vulnerability and risk management in semi-arid India? A focus on barriers and enablers to adaptation, <i>Environmental Development</i> , under review [Chandni Singh, Myanmar]	Accepted and papers considered

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
6036	26	42	27	2	Sec 7.4.2 as a whole is very well written. For some more insights on comprehensive risk management, the need for it to be layered and sequential to capture spatio-temporal dynamics, can consider the following papers: Singh, C., Rahman, A., Srinivas, A., & Bazaz, A. (2018). Risks and responses in rural India: Implications for local climate change adaptation action. <i>Climate Risk Management</i> . https://doi.org/10.1016/j.crm.2018.06.001Eakin, H. C., M. C. Lemos, and D. R. Nelson, 2014: Differentiating capacities as a means to sustainable climate change adaptation. <i>Glob. Environ. Chang.</i> , 27, 1–8, doi:10.1016/j.gloenvcha.2014.04.013.....Singh, C et al (2018) What shapes vulnerability and risk management in semi-arid India? A focus on barriers and enablers to adaptation, <i>Environmental Development</i> , under review [Chandni Singh, Myanmar]	Accepted and papers considered
27444	26	3			"While this is a useful framework" -- antecedent is unclear. Moreover, it's not clear that this is a useful framework in the specific context of this special report. [Doreen Stabinsky, United States of America]	Accepted and revised.
4538	26	17			Modify to read "...transfer, retention, and includes social protection instruments..." [Michelle North, South Africa]	Accepted and revised and cofiveepted and revised
4540	26	19			Delete "like event type" [Michelle North, South Africa]	Accepted and revised and cofiveepted and revised
17664	26	43			reference should be out of parenthesis [Paul Hudson, Germany]	Accepted and revised
21432	27	3	27	4	This perspective understands risk form a managerial perspective, as if policy making is comparable to running a business, On the contrary, risk governance goes beyond standards and management, as it deals with human decisions at multiple levels, from the individual to international organizations, and with the use of natural resources and ecosystem services. [Urbano Fra.Paleo, Spain]	Section amended to include risk governance
8784	27	3	27	18	While the ISO does provide risk management principles, a more climate change policy relevent source is the UNFCCC that has a number of publications on comprehensive climate risk management. Would be helpful to include discussion of those here as policymakers will likely be more familiar with UNFCCC and the UNFCCC principles, guidelines and frameworks are climate change specific [Delphine Deryng, Germany]	Taken into account when rewriting risk section of chapter
4542	27	13	27	15	This part of a sentence: "...and can provide a framework for risk signals to adaptation planning and implementation and facilitate financial buffering when climate impacts exceed current capabilities to manage delivered through both public and private finance" is very long and either needs to be broken into two separate sentences, or it needs to be summarized and punctuation to be added [Michelle North, South Africa]	Accepted and revised
21408	27	14	27	15	"... to manage delivered through..." -- sentence not well structured. [Jony Mainaly, Nepal]	Accepted and revised.
4544	27	17			Should replace "in" with "when" ("is required when assessing if policy...") [Michelle North, South Africa]	Accepted and revised
2614	28	2	28	2	The authors could improve the text in Table 7.2, e.g., "food securit y". Same for Table 3, Page 7-39. [William Lahoz, Norway]	copyedit to be completed prior to publication
9558	28	2	28	3	Using "forest carbon offset" and "REDD" together as if they were the same may not be advisable, as REDD may be include or exclude offsetting, depending on national policies. [Dirk Nemitz, Germany]	Accepted and revised
8786	28	1	29	1	Would be helpful to include a column here on the type of comprehensive risk management that each of these activities falls into. I.e. risk assessment, reduction, transfser or reduction. [Delphine Deryng, Germany]	Accepted, a column has been added for type of risk management.

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
1448	28	1	29	1	Various policy frameworks from the Committee on World Food Security should also be included: Voluntary Guidelines on the Responsible Governance of Tenure; Voluntary Guidelines on the Right to Food. At national level, policies regarding extension systems might also be included. And different policies/programmes might be reconsidered for their linkage to food security (e.g. land tenure has a very strong relationship with food security for often subsistence, small-scale food producers)\ [Tonya Rawe, United States of America]	These issues could be covered in the Food Security chapter, and thus shall be coordinated with that chapter.
27446	28	1	29		It's not clear what the objective of the table is, given the rather incommensurable list of items under policy/programme/instrument column. It is not clear why energy access is included given the topic of this special report. It is not clear why flood, drought, and forest fires are singled out as hazards, rather than, say, emergent global risks such as multi-breadbasket failure. Indeed the title of the table talks about risks, not hazards. [Doreen Stabinsky, United States of America]	Accepted, the table has been re-organised in response to the reviewer comments so that only hazards are listed and the associated risks management approaches are summarised.
24536	28		29		Table 7.2 LDN is a policy that is promoted at national level, first and foremost. Hence it should be included in the row of national policies. It also addresses food security, SLM, Hazards to flood and drought. Please consult Orr BJ, Cowie AL, Castillo Sanchez VM, Chasek P, Crossman ND, Erlewein A, Louwagie G, Maron M, Metternicht GI, Minelli S, Tengberg AE, Walter S, Welton S (2017) Scientific conceptual framework for land degradation neutrality. A report of the science-policy interface. United Nations Convention to Combat Desertification (UNCCD), Bonn, Germany. ISBN 978-92-95110-42-7 (hard copy), 978-92-95110-41-0 (electronic copy) . The table should include Integrated Land Use Planning as a policy instrument in Table 7.2 which addresses SLM, food security, land degradation, hazards. See Metternicht, G. (2018). Land Use and Spatial Planning: Enabling Sustainable Management of Land Resources. Springer. [Barron Joseph Orr, Germany]	Accepted and revised
6696	28		29		Table 7.2 LDN is a policy that is promoted at national level, first and foremost. Hence it should be included in the row of national policies. It also addresses food security, SLM, Hazards to flood and drought. Please consult Orr BJ, Cowie AL, Castillo Sanchez VM, Chasek P, Crossman ND, Erlewein A, Louwagie G, Maron M, Metternicht GI, Minelli S, Tengberg AE, Walter S, Welton S (2017) Scientific conceptual framework for land degradation neutrality. A report of the science-policy interface. United Nations Convention to Combat Desertification (UNCCD), Bonn, Germany. ISBN 978-92-95110-42-7 (hard copy), 978-92-95110-41-0 (electronic copy) . The table should include Integrated Land Use Planning as a policy instrument in Table 7.2 which addresses SLM, food security, land degradation, hazards. See Metternicht, G. (2018). Land Use and Spatial Planning: Enabling Sustainable Management of Land Resources. Springer. [Graciela Metternicht, Australia]	Accepted and revised

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
14690	28		29		Table 7.2 LDN is a policy that is promoted at national level, first and foremost. Hence it should be included in the row of national policies. It also addresses food security, SLM, Hazards to flood and drought. Please consult Orr BJ, Cowie AL, Castillo Sanchez VM, Chasek P, Crossman ND, Erlewein A, Louwagie G, Maron M, Metternicht GI, Minelli S, Tengberg AE, Walter S, Welton S (2017) Scientific conceptual framework for land degradation neutrality. A report of the science-policy interface. United Nations Convention to Combat Desertification (UNCCD), Bonn, Germany. ISBN 978-92-95110-42-7 (hard copy), 978-92-95110-41-0 (electronic copy) . The table should include Integrated Land Use Planning as a policy instrument in Table 7.2 which addresses SLM, food security, land degradation, hazards. See Metternicht, G. (2018). Land Use and Spatial Planning: Enabling Sustainable Management of Land Resources. Springer. [Rattan Lal, United States of America]	This will be coordinated with the Land Degradation chapter in which these issues should be addressed.
26096	28	1			Table 7.2: The categories in columns are not clear, mixing risks (e.g., hazards, desertification) with responses (e.g., sustainable land management, energy access) [Hans Poertner and WGII TSU, Germany]	Accepted, the table has been re-organised in response to the reviewer comments so that only hazards are listed.
11656	28				Table: Please add horizontal lines to separate the Policies entries – currently it is not clear where one ends and the next starts. [Debra Roberts, South Africa]	Considered and Table reformatted for ease of reading.
16184	29	3	29	5	Why should food come from the same area? Kindly note that international trade may well help fill food deficits and increase dietary diversity. [Lorenzo Giovanni Bellù, Italy]	Lines 3 to 5 do not mention trade or the source of food. Trade is discussed in Chapter 5.
16186	29	6	29	6	Please specify which exactly activities are included inside "agriculture" when counting the GHG contribution and please ensure coherency with what is reported in Chapter 1 and Chapter 5 on the GHG emissions from agriculture (see also comment 13 on repetition and comment 3 on the lack of coherence throughout the report). [Lorenzo Giovanni Bellù, Italy]	Noted. Line removed to avoid inconsistencies.
16188	29	7	29	8	Both in Chapter 1 (page 1-11, lines 12-15) and in Chapter 5 (page 5-70, lines 33-34) there is reference to an expected increase of global food production and demand but in all three Chapters the references are different and in Chapter 1 a different number is cited. There is no need to repeat in Chapter 7 something already written twice before and yet citing a third source, while not saying anything on how this number has been produced. Most likely is the result of a specific scenario. Which scenario? under what assumptions? what is exactly mid-2000s? are you sure the study you are citing in Chapter 7 indeed quantifies the increase of food demand or is it that is uses different scenarios to quantify the footprint of different diets? Please note that for this particular issue the reference literature is: Alexandratos, N. and Bruinsma, J. 2012. World Agriculture Towards 2030/2050: the 2012 Revision, ESA working papers no 12-03, Rome, FAO (also available at www.fao.org/3/a-ap106e.pdf). A more recent update of these projections is in: FAO. 2017. The future of food and agriculture - Trends and Challenges, Rome (available at http://www.fao.org/3/a-i6583e.pdf) [Lorenzo Giovanni Bellù, Italy]	References added and line removed to avoid inconsistencies with other chapters.
4548	29	11	29	12	"food systems" occurs twice and "systems" three times in this sentence. Rather delete the second "in food systems" to read: "Understanding food systems and patterns of risk enables the design of more resilient systems ()" [Michelle North, South Africa]	Accepted. As suggested, we have addressed the overlaps with the other chapters

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
18538	29	21	29	24	The chapter authors are offering a nuanced and cautious assessment of the role of global trade as being both positive and negative for climate adaptation and mitigation. The message that global trade tend to overemphasize overreliance on fewer traded commodities goes against the important recommendation that pleads for more diversified food production systems and more reliance on locally important food sources. Again this important result would need a more robust evidentiary support given the huge implications for global trade policies (especially in relation to WTO and other multilateral or regional trade regime) [Aziz Elbehri, Italy]	Trade is discussed in Chapter 5 more fully.
1452	29	2	31	10	The discussion of policy options to manage risk to support food production might also include discussion of policies for extension systems and climate information services to mitigate risk through training on more resilient farming techniques, to ensure accessible climate/weather forecasting information. Microfinance policy might also be included as a means of managing the risk of food production and to access finance to invest in new techniques, where those techniques come with a short term cost. There are myriad policies that address barriers and incentives for small-scale food producers (esp women) to be able to adopt a lot of the biophysically-oriented practices and approaches discussed. Related to this -- pg 30, line 17, farmers' use of unsustainable methods may stem from lack of access to information on better, more sustainable techniques; a reliance on traditional (and perhaps unsustainable) means of agriculture; and (as mentioned in the last part re: coping with food deficiency) a lack of alternatives for income generation to address household food insecurity. [Tonya Rawe, United States of America]	Noted and section revised. Reference to the suggested topics added.
1642	29	2	32	3	With respect to food security I suggest to take into consideration also the "acceptability" issue, along with food availability, access and use (line 25). This is at the core of the right to food, as described by the United Nations Committee on Economic, Social and Cultural Rights in its General Comment n. 12 (1999). [Francesca Spagnuolo, Italy]	Noted and incorporated.
16182	29	2	32	40	Section 7.4.2.1 on food security should ideally move inside Chapter 5. Not moving this section inside Chapter 5 results in repetitions of issues in various Chapters of the entire report. [Lorenzo Giovanni Bellù, Italy]	Overlap with chapter 5 removed. This section assess effectiveness of policies while chapter 5 should address possible interventions.
26098	29	2			Needs cross-references to respective sections in Ch5. Avoid overlaps regarding definitions and impacts that have already been described [Hans Poertner and WGII TSU, Germany]	Noted and further discussed with chapter 5. Section revised to avoid overlaps.
4546	29	9			It is not necessary to provide an acronym for Sub-Saharan Africa, please remove SSA [Michelle North, South Africa]	Accepted. As suggested, we have addressed the overlaps with the other chapters
16996	30	12	30	20	Lack of education in farmers about climate change phenomenon its impacts and mitigation measures is the main reason for practices mentioned in this section, so here it should be discussed [Kiran Farhan, Pakistan]	Accepted and revised text to include details suggested.
18946	30	22	30	22	To add a case, following sentence and reference can be inserted after " (Munthali and Murayama 2013).": "Unregulated conversion of forests to farmland and logging by local residents can trigger conflicts with other residents whose livelihoods are depend on the same forest providing non-timber forest products for their cash income and foods (Ehara et al. 2018)." Ehara et al, 2018. Addressing Maladaptive Coping Strategies of Local Communities to Changes in Ecosystem Service Provisions Using the DPSIR Framework, Ecological Economics, Volume 149, 2018, Pages 226-238, ISSN 0921-8009, https://doi.org/10.1016/j.ecolecon.2018.03.008 . [Makoto Ehara, Japan]	Thank you for the suggestion. Text has been revised and case may be incorporated.

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
11200	30	24	30	24	2013 is not 'today'. Consider rephrasing this sentence. [Debra Roberts, South Africa]	Sentence removed. There is a section on costs elsewhere in the chapter.
1450	30	25	30	25	Elsewhere, the report relies on internationally agreed definitions of food security from FAO, including the four pillars. For consistency, that same definition and four pillars should be used here. [Tonya Rawe, United States of America]	This chapter uses agreed definitions outlined in the glossary.
16998	30	40	31	48	Alternative food options which are equally nutrients rich and also help to combat climate change impacts may be considered such as growing use of soy milk (plants based milk) rather than cow milk. [Kiran Farhan, Pakistan]	This should be covered in Chapter 5.
4550	30	3			Replace "as well as" with "by", so that the sentence reads "...are additional ways to improve food security (), by increasing production through increased yield or number of harvests per year ()" [Michelle North, South Africa]	Accepted
4552	30	9			I would say that regulation of groundwater consumption is important to avoid risks to food and water security, not food security alone. [Michelle North, South Africa]	Note to water security is now also added.
11658	30	10			A table of 'alternative staples' with their water, temperature, soil, care requirements could be presented somewhere. [Debra Roberts, South Africa]	This should be in Chapter 5 as Chapter 7 focuses on policy.
3482	30	13			YES!!! this must be part of the solution, approaches... of where to look for response option. An important reference to consider here and elsewhere in the Document : IAASTD 2011: Agriculture at the Crossroad [Cordula Ott, Switzerland]	Accepted. As suggested, we have addressed the overlaps with the other chapters
4554	30	14			Are "Poor nutrient availability and soil fertility" really the leading limitations? I would have thought that water shortage was one of the top limitations to crop yields. Please check [Michelle North, South Africa]	Reworded to correct statement as suggested.
4556	30	49			Insert a space between "0.2%" and "lower" [Michelle North, South Africa]	Accepted and corrected
18978	31	6	31	8	Nevertheless, systems..... Reference is not clear, if the reference is (Venton 2018) please refer to few other sources as this statement may be context specific [Aditi Khodke, Japan]	Accepted and text revised to further elaborate
4298	31	7	31	8	This statement should have at least one reference. [Daniel Pazmino, Ecuador]	Accepted. Text revised and a reference sought.
4560	31	32	31	35	This sentence is extremely long and convoluted, please try to simplify, or split in two, or add punctuation to enhance readability [Michelle North, South Africa]	Accepted. As suggested, we have addressed the overlaps with the other chapters
18540	31	32	31	39	Another extremely important conclusion about trade that require further elaboration and evidence to strengthen its claims. Basically trade can play an important role in facilitating food access BUT trade also come with high NEGATIVE costs and negative impacts on the environment, especially how it contributes to increased deforestation and accelerated depletion of resource (soil quality, nutrient loss, increased water scarcity etc). More evidence and support on this important conclusion is required in this report. [Aziz Elbehri, Italy]	Acknowledged.
4562	31	37	31	37	Modify to read: "acquisition reveals two patterns: those that target forested landscapes, and those that target existing cropland..." OR "acquisition reveals two patterns: targeting forested landscapes or existing croplands..." [Michelle North, South Africa]	Accepted and changed
11202	31	38	31	38	Add 'of' before 'which' [Debra Roberts, South Africa]	Accepted and changed
5522	31	26			the number 014 is not understood [claudio szlafstein, Brazil]	It is 0.14%
4558	31	26			Please check whether you mean 0.14% or 0-14% ("0-14%" is confusing) [Michelle North, South Africa]	Corrected to be 0.14
11660	31	42			Including environmental cost in beef especially, is critical. What about the USA and other high beef/dairy users? [Debra Roberts, South Africa]	Much of this is discussed in Chapter 5.

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23876	32	12	32	12	risk cannot be ameliorated but just increased or reduced [Urbano Fra.Paleo, Spain]	Accepted. Edited as suggested
23878	32	35	32	35	Insurance is not a form of risk reduction (and consequently neither mitigation nor adaptation) because although it reduces individual vulnerability risk is distributed among a wider social group [Urbano Fra.Paleo, Spain]	Acknowledged. The text does not imply that insurance is a form of risk reduction, but that it can improve adaptive capacity. Insurance can be linked to risk reduction measures, or be packaged to incentivise risk reduction.
17666	32	42	32	47	formatting issue [Paul Hudson, Germany]	Noted
7144	32	41	34	14	Please consider the evolution of the concept of "Zero Net Land Degradation" to the concept of a Land Degradation Neutral World for the following reasons: (1) SDG 15.3 talks about striving to achieve a land degradation neutral world. (2) The discussions within the UNCCD inspired the evolution of the terminology from Zero Net Land Degradation to Land Degradation Neutrality. For further reading on this matter see: Safriel, U. (2017). Land Degradation Neutrality (LDN) in drylands and beyond - where has it come from and where does it go. <i>Silva Fennica</i> vol. 51 no. 1B article id 1650. 19 p. https://doi.org/10.14214/sf.1650 . [Mariam Akhtar-Schuster, Germany]	Accepted revised in SOD and considered also by chapter 4
14694	32	41	34	14	I think it would be better to speak about LDN, not ZNLD. ZNLD can be mentioned only in the very beginning as an old term, now replaced by the LDN. [Rattan Lal, United States of America]	Accepted considered in SOD
24538	32	41	34	43	The header should read "Land Degradation Neutrality (LDN)" -- all subsequent references to "ZNLD" should be changed to "LDN" -- LDN is the term of art agreed to by Member States and used since Rio+20. The whole section that currently reads ZNLD needs to be updated, starting with the title to be 'Land Degradation Neutrality'. Please include formal definition of LDN adopted by the COP: "A state whereby the amount and quality of land resources, necessary to support ecosystem functions and services and enhance food security, remains stable or increases within specified temporal and spatial scales and ecosystems." (decision 3/COP.12, UNCCD, 2015). Key publications about LDN include Orr et al., 2017, Cowie et al 2018, Akhtar-Schuster et al 2017, and Metternicht (2018). For additional information on LDN, on the hierarchy of avoid->reduce->restore that LDN applies, on the importance of LUP for advancing LDN, and on the process of LDN voluntary target setting by countries. Metternicht, G. (2018). Land Use Planning for Advancing Internationally Agreed Development Goals. In <i>Land Use and Spatial Planning</i> (pp. 53-59). Springer, Cham. Kust, G., Andreeva, O., & Cowie, A. (2017). Land Degradation Neutrality: Concept development, practical applications and assessment. <i>Journal of environmental management</i> , 195, 16-24. [Barron Joseph Orr, Germany]	Accepted revised in SOD
6698	32	41	34	43	The whole section that currently reads ZNLD needs to be updated, starting with the title to be 'Land Degradation Neutrality'. Please include formal definition of LDN adopted by the COP: A state whereby the amount and quality of land resources, necessary to support ecosystem functions and services and enhance food security, remains stable or increases within specified temporal and spatial scales and ecosystems. Orr et al., 2017, Cowie et al 2018, Akhtar-Schuster et al 2017, and Metternicht (2018) for additional information on LDN, on the hierarchy of avoid->reduce->restore that LDN applies, on the importance of LUP for advancing LDN, and on the process of LDN voluntary target setting by countries. Metternicht, G. (2018). Land Use Planning for Advancing Internationally Agreed Development Goals. In <i>Land Use and Spatial Planning</i> (pp. 53-59). Springer, Cham. Kust, G., Andreeva, O., & Cowie, A. (2017). Land Degradation Neutrality: Concept development, practical applications and assessment. <i>Journal of environmental management</i> , 195, 16-24. [Graciela Metternicht, Australia]	accepted addressed in SOD

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
14692	32	41	34	43	The whole section that currently reads ZNLD needs to be updated, starting with the title to be 'Land Degradation Neutrality'. Please include formal definition of LDN adopted by the COP: A state whereby the amount and quality of land resources, necessary to support ecosystem functions and services and enhance food security, remains stable or increases within specified temporal and spatial scales and ecosystems. Orr et al., 2017, Cowie et al 2018, Akhtar-Schuster et al 2017, and Metternicht (2018) for additional information on LDN, on the hierarchy of avoid->reduce->restore that LDN applies, on the importance of LUP for advancing LDN, and on the process of LDN voluntary target setting by countries. Metternicht, G. (2018). Land Use Planning for Advancing Internationally Agreed Development Goals. In Land Use and Spatial Planning (pp. 53-59). Springer, Cham. Kust, G., Andreeva, O., & Cowie, A. (2017). Land Degradation Neutrality: Concept development, practical applications and assessment. Journal of environmental management, 195, 16-24. [Rattan Lal, United States of America]	accepted addressed in SOD
27564	32	5	42	49	Substantive work and has brought out the nexus and connectivity of the issues. [Daniel Mailumo, Nigeria]	Noted, thank you very much
4564	32	22			Please replace "vis-à-vis" with "with regard to" [Michelle North, South Africa]	Accepted. Edited as suggested
6292	32	23			change: when ex ante to when ex-ante [Abdel-Hai Benali, Algeria]	Accepted and changed.
4566	32	23			"ex ante"? Please replace all unnecessary Latin terms with English translations (e.g., "forecasting tools" or "predictive tools" or whatever the author meant here) [Michelle North, South Africa]	This is a term that is used commonly in the literature. However, clarifications regarding the meaning will be added.
6294	32	28			change: Mohammed et al. 2018) to Mohamed et al. 2018) [Abdel-Hai Benali, Algeria]	Rejected. This is the correct spelling of the authors name
6296	32	32			change: expensive than to expensive that [Abdel-Hai Benali, Algeria]	Rejected. It should be expensive than, as indicated by the below comment.
4568	32	32			Replace "that" with "than" to read "than total incentivised damage.." [Michelle North, South Africa]	Accepted.
4570	32	33			"12% in Germany" by when? [Michelle North, South Africa]	Accepted. Text changed to clarify.
3484	32	41			why not include result in Title: strive for ZNLD [Cordula Ott, Switzerland]	Noted titled revised in SOD
11662	32	43			Re "rate of global land degradation": neutrality can only be achieved if this phrase refers to non-wild lands, i.e. land already under agriculture and thus already degraded in terms of biodiversity. Expansion into currently natural environments represents losses that cannot simply be neutralised by restoration elsewhere. [Debra Roberts, South Africa]	Noted
4572	33	3	33	4	Modify to read: "...that need to be addressed before sustainable management of land resources can be achieved ()" [Michelle North, South Africa]	Accepted and noted
18948	33	4	33	8	To add a case of "Cambodia" to the "Studies from different parts of the world (Pakistan, Mediterranean areas, Botswana) ", follwing reference can be cited. Ehara et al, 2018. Addressing Maladaptive Coping Strategies of Local Communities to Changes in Ecosystem Service Provisions Using the DPSIR Framework, Ecological Economics, Volume 149, 2018, Pages 226-238, ISSN 0921-8009, https://doi.org/10.1016/j.ecolecon.2018.03.008 . [Makoto Ehara, Japan]	noted
4574	33	6	33	7	Change "for reduction of" and "for enhancement of" to "to reduce" and "enhance", and delete the "'for" before "sustainable land management" [Michelle North, South Africa]	Accepted revised in SOD
20148	33	8	33	8land management (Salvati and Carlucci 2014; Reed et al. 2015; Easdale 2016). [Sabit Erşahin, Turkey]	Accepted revised in SOD

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
4582	33	17	33	18	Please try to reduce the use of acronyms in general, by, for example, rewording the sentence (e.g., "Facing the challenges of climate change, desertification, land degradation and drought together with population increase, actions and activities that contribute to reducing land degradation play an essential role..." [Michelle North, South Africa]	noted, considered in SOD
4586	33	22	33	24	Please lose the "should target the quantification of", and change the sentence to simply say "...monitoring land degradation should quantify costs, benefits and impacts...", or at least, "should aim to quantify..." [Michelle North, South Africa]	Accepted and noted
20150	33	25	33	25	....Cowie et al. 2018). [Sabit Erşahin, Turkey]	Accepted and noted
4594	33	30	33	31	Change "for achievement of" to "to achieve", and "for implementation of" to "to implement". Throughout this section there are many such cases where verbs have been (incorrectly) changed into nouns, please correct them all [Michelle North, South Africa]	accepted addressed in SOD
4600	33	36	33	37	Please reference this sentence, since you say that it has been "underlined by many researchers" [Michelle North, South Africa]	accepted addressed in SOD
4604	33	49	34	1	What is meant by "cuts in national rates of desertification"? Please reword [Michelle North, South Africa]	noted
6298	33	9			change: global ZNLD it to global ZNLD, it [Abdel-Hai Benali, Algeria]	noted
4576	33	9			Change "effectiveness of" to "effective" [Michelle North, South Africa]	Accepted revised in SOD
4578	33	9			Change "very important" to "critical" [Michelle North, South Africa]	Accepted revised in SOD
6300	33	10			change: Furthermore it to Furthermore, it [Abdel-Hai Benali, Algeria]	noted , changed in SOD
4580	33	12			Please do not start sentences with acronyms like "ZNLD". Either write out or try to find an alternative way of saying it [Michelle North, South Africa]	noted
6302	33	18			change: role for a land-based to role in a land-based [Abdel-Hai Benali, Algeria]	noted
4584	33	22			Please change "the monitoring of" to simply "monitoring", and replace the acronym with "land degradation" [Michelle North, South Africa]	noted
4588	33	26			All instances of "operationalisation of", "quantification of", "effectiveness of" need to be altered to their grammatically correct form, for example, "Operationalising zero net land degradation requires..." [Michelle North, South Africa]	Accepted and noted
4590	33	29			"monitoring the targets for land degradation..." - it is not necessary to use the acronym here, among many other places [Michelle North, South Africa]	Accepted and noted
4592	33	29			"requires a method of assessing" [Michelle North, South Africa]	Accepted and noted
6304	33	30			change: for achievement of ZNLD to for the achievement of ZNLD [Abdel-Hai Benali, Algeria]	noted
4596	33	33			What is LDN? Please write out and do not use the acronym anywhere, this is short [Michelle North, South Africa]	noted
6306	33	36			change: on achievement of ZNLD to on the achievement of ZNLD [Abdel-Hai Benali, Algeria]	noted
4598	33	36			"on achievement of ZNLD" should be "for achieving ZNLD" [Michelle North, South Africa]	Accepted revised in SOD
4602	33	43			I think this is a very good example of why acronyms are not always appropriate. Here it refers to the status of 'zero net land degradation', however, surely the term implies zero degradation (i.e., what status, this is a static term). Therefore it would be far more accurate to say "Monitoring the global status of land degradation", or similar [Michelle North, South Africa]	Accepted revised in SOD
6308	33	44			change: is not a static to is not static [Abdel-Hai Benali, Algeria]	Accepted revised in SOD

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
4610	34	4	34	5	What is meant by "through payments for improving ecosystem services, as well as other economic mechanisms"? Please reword [Michelle North, South Africa]	noted
4614	34	4	34	8	Please provide references for this sentence [Michelle North, South Africa]	noted
4616	34	4	34	14	This paragraph contains a lot of repetition and colloquial language, please rewrite to make more concise [Michelle North, South Africa]	noted
4618	34	17	34	20	Please provide some references here [Michelle North, South Africa]	Revised and More references provided in the SOD. References for "Climate change and biodiversity are interlinked .
4620	34	23	34	24	Please provide more references for this list of benefits [Michelle North, South Africa]	Revised and more references provided in the SOD. Mangroves provide diverse ecosystem services such as carbon storage, fisheries, non-timber forest products, erosion protection, water purification, shore-line stabilisation and also regulate storm surge and flooding damages, thus enhancing resilience and reducing climate risk from extreme events such as cyclones
4624	34	24	34	28	This ecosystem-based adaptation sounds like a magic bullet to fix the impacts of climate change - could you please provide some examples of what you mean by it (beyond just the mangrove forests), and consider explaining why it is not automatically adopted as a solution all around the world (I'm sure there must be some economic downsides, if not others) [Michelle North, South Africa]	Text notes that there is limited evidence. Therefore further references are hard to find and more research is needed
16698	34	28	34	28	Suggest to add the following sentence "Ecosystem-based adaptation has been discussed under both UN Framework Convention on Climate Change and Convention on Biological Diversity, and to promote ecosystem-based adaptation it requires institutional interactions between climate change and biodiversity". Please see Morita, K. and K. Matsumoto. 2015. Enhancing biodiversity co-benefits of adaptation to climate change. In W.L. Filho ed. Handbook of climate change adaptation. Springer-Verlag Berlin Heidelberg. 953-972. (Referred) [Kanakano Morita, Japan]	Accepted. As suggested, we have addressed the overlaps with the other chapters
24540	34	44	36	27	Recent publications from the IUCN Global Drylands programme tackle the impacts and challenges associated to investing for sustainable rangeland management in communal lands. Please consult: Davies, J., Ogali, C., Laban, P., & Metternicht, G. (2015). Homing in on the range: enabling investments for sustainable land management. Technical brief, 29(01), 2015. [Barron Joseph Orr, Germany]	Accepted and noted
8686	34	44	36	27	To include issues of coastal land tenure, see for example: Lin et al. (2014) Assessing inundation damage and timing of adaptation: sea level rise and the complexities of land use in coastal communities. Mitigation and adaptation strategies for global change, 19(5), 551-568; Hurlimann et al. (2014) Urban planning and sustainable adaptation to sea-level rise. Landscape and Urban Planning, 126, 84-93; Gittman et al. (2015) Engineering away our natural defenses: an analysis of shoreline hardening in the US. Frontiers in Ecology and the Environment, 13(6), 301-307. [Delphine Deryng, Germany]	Accepted. Coastal land tenure issues will be included in SOD
8788	34	44	36	27	This discussion of land tenure should also include issues of coastal land ownership. Sea level rise and coastal erosion are creating issues with land tenureship in coastal regions. Questions about the loss of privately owned land to the public as high tides increase are presenting challenges around the world. There are also issues with who is responsible for adaptation measures with unclear land tenureship in coastal regions. [Delphine Deryng, Germany]	Accepted. Coastal land tenure issues will be included in SOD

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
6734	34	44	36	27	Recent publications from the IUCN Global Drylands programme tackle the impacts and challenges associated to investing for sustainable rangeland management in communal lands. Please consult: Davies, J., Ogali, C., Laban, P., & Metternicht, G. (2015). Homing in on the range: enabling investments for sustainable land management. Technical brief, 29(01), 2015. [Graciela Metternicht, Australia]	Accepted. As suggested, we have addressed the overlaps with the other chapters
14696	34	44	36	27	Recent publications from the IUCN Global Drylands programme tackle the impacts and challenges associated to investing for sustainable rangeland management in communal lands. Please consult: Davies, J., Ogali, C., Laban, P., & Metternicht, G. (2015). Homing in on the range: enabling investments for sustainable land management. Technical brief, 29(01), 2015. [Rattan Lal, United States of America]	Accepted and noted
24542	34	40	38	4	Land use planning is a fundamental enabling condition of SLM. Please consider adding a half of a paragraph on the role of LUP for SLM initiatives. References: Metternicht, G. (2018). Contributions of Land Use Planning to Sustainable Land Use and Management. In Land Use and Spatial Planning (pp. 35-51). Springer, Cham; Sustainable Land Management for Climate and People: Policy brief by the SPI of UNCCD. https://www.unccd.int/publications/sustainable-land-management-climate-and-people . These 2 works have plenty of citations and case studies that demonstrate the fundamental role of LUP for SLM. [Barron Joseph Orr, Germany]	accepted and added to second order draft
6700	34	40	38	4	Land use planning is a fundamental enabling condition of SLM. I suggest half a paragraph be included on the role of LUP for SLM initiatives. References: Metternicht, G. (2018). Contributions of Land Use Planning to Sustainable Land Use and Management. In Land Use and Spatial Planning (pp. 35-51). Springer, Cham; Sustainable Land Management for Climate and People: Policy brief by the SPI of UNCCD. https://www.unccd.int/publications/sustainable-land-management-climate-and-people . These 2 works have plenty of citations and case studies that demonstrate the fundamental role of LUP for SLM. [Graciela Metternicht, Australia]	accepted and added to second order draft
14698	34	40	38	4	Land use planning is a fundamental enabling condition of SLM. I suggest half a paragraph be included on the role of LUP for SLM initiatives. References: Metternicht, G. (2018). Contributions of Land Use Planning to Sustainable Land Use and Management. In Land Use and Spatial Planning (pp. 35-51). Springer, Cham; Sustainable Land Management for Climate and People: Policy brief by the SPI of UNCCD. https://www.unccd.int/publications/sustainable-land-management-climate-and-people . These 2 works have plenty of citations and case studies that demonstrate the fundamental role of LUP for SLM. [Rattan Lal, United States of America]	accepted and added to second order draft
4606	34	1			Change "decertified" to "desertified" [Michelle North, South Africa]	Accepted revised in SOD
4608	34	4			Modify to read: "Despite opportunities for implementing restoration projects..." [Michelle North, South Africa]	Accepted revised in SOD
4612	34	5			Please change "the implementation of" to "implementing" [Michelle North, South Africa]	Accepted and noted
11666	34	7			It would be helpful to discuss the reasons for "failure in ecosystem restoration and degradation prevention" – what are the difficulties? [Debra Roberts, South Africa]	Accepted. See 7.5.9 and 7.6.1 Barriers to adaptation and informal institutions
11664	34	10			This sentence contrasts 'developing countries' with 'humid areas' which is confusing. [Debra Roberts, South Africa]	Accepted revised in SOD

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6310	34	20			change: There is high to There is a high [Abdel-Hai Benali, Algeria]	Corrected
4622	34	29			What is "climate prone coastal zone"? Please reword [Michelle North, South Africa]	Accepted and noted
11668	34	30			We have heard many times about mangroves. Perhaps could you cite some alternative examples here? Especially examples that have very wide applicability, eg growing hedgerows or stocking river valleys or otherwise uncultivated land (inside agricultural areas) with indigenous trees, as refugia for pollinators, natural enemies of pests and biodiversity in general, wind breaks, erosion stops, ets, with examples from different continents. [Debra Roberts, South Africa]	Revised text, table with response options and case studies, included more examples
17668	34	32			change in referencing style [Paul Hudson, Germany]	Accepted. As suggested, we have addressed the overlaps with the other chapters
6312	34	37			change: are a now a major to are now a major [Abdel-Hai Benali, Algeria]	Noted
4626	34	40			What do you mean by "simplification due to degradation, abstraction and regulation", in particular the "abstraction" and "regulation" as causes of aquatic ecosystem simplification? [Michelle North, South Africa]	Accepted and noted
4628	34	42			"maintaining", not "maintenance of" [Michelle North, South Africa]	Accepted and noted
14700	34	43			Further commitments should imply standards determination, behavioral landscape ecology, spatial scaling, decision support, and voluntary marketing tools, to encourage precision conservation, biodiversity, organic production, polycultures, soil stewardship, woody perennial and landscape connectivity to avoid habitat fragmentation. Ref.: PILON, A. F., Terrains, Watersheds and Quality of Life: an Ecosystemic Approach to the Problems of our Time, posted on The British Academy of Management, 30th June 2018 [on line]: https://www.bam.ac.uk/news-story/9709 [Rattan Lal, United States of America]	Rejected. Grey literature and not peer-reviewed literature.
3486	34	44			why not include result in title: securing small holders land tenure for rural population [Cordula Ott, Switzerland]	Not accepted: proposed title too restrictive
15892	35	3	35	7	Check punctuation [Debra Roberts, South Africa]	Accepted and noted
11204	35	5	35	6	Has the status changed since then? 2005 seem a long time ago to have much relevance to present day reality. Also, it is a bit confusing why you decided to lump together land rights and global forest cover in one sentence. [Debra Roberts, South Africa]	2005 is mentioned as a study including data was published. The statement is actually about the existence of forest commons, so very much a land tenure issue
5524	35	7	35	8	the phrase seems to be inconclusive "Research in this area, such as (Fraser et al. 2011; Barbier and Tesfaw 2012, 2013)" [claudio szlafsztein, Brazil]	Accepted and noted: section has been rewritten for SOD
4630	35	7	35	10	There is something very wrong with these sentences: "Research in this area, such as (Fraser et al. 2011; Barbier and Tesfaw 2012, 2013). (Antwi-Agyei et al. 2015a), therefore necessarily recognises earlier literature, for example (Schlager and Ostrom 1992; Toulmin and Quan 2000; Bruce and Migot-Adholla 1994; Easterly 2008) that demonstrates that", please rewrite [Michelle North, South Africa]	Accepted and noted: section has been rewritten for SOD
11206	35	22	35	27	This is not very clear. Consider rephrasing. [Debra Roberts, South Africa]	Accepted and noted
4634	35	25	35	36	This section is more literature review than an assessment, please modify or consider removing these sentences. [Michelle North, South Africa]	Section has been comprehensively rewritten for SOD
26100	35	28	35	28	What is 'modified customary land tenure'? [Hans Poertner and WGII TSU, Germany]	Explained better in rewritten section

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21304	35	3	36	27	<p>More studies are needed on the tenurial security, forms of tenurial security, traditional laws, customary rights and laws related to land and resource and their implications on conservation and protection of resource, reducing deforestation and degradation. Unfortunately, interventions such as REDD+ has already been initiated with not enough support studies. Customary laws and rights, traditional practices and institutions, especially that of indigenous and local communities provide a basic system of security over land and resources. But, these are often not recognised by governments, are easily overridden by or subsumed under land acquisition laws, and are not attractive to global finance for lack of specific, well defined relationship between land and individual or community and also considered as not market friendly since it locks up land and resources. In this respect, often formal and legislative recognition of resource rights of both individual and community could be the way out with emphasis on community governance. The rights here in are well defined, though the collective and community rights are preferable to individual rights. It would be good in this regard to look at the Indian legislation called Forest Rights Act 2006. The legislation is actually referred to in the law books as The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forests) Rights Act, 2006. This act not only confers both individual and community rights over land and forest resources, but the individual land rights is subjected to ownership by both the spouses. The provisions of the Act includes duties and responsible of rights holders to manage forests and act against destructive activities against forests, through a system of community forest governance where the village council is at the centrality of this community governance system. If such a system of tenurial rights coupled with community governance is ushered in or implemented in true spirit, we might not need external interventions in the form of REDD". This legislation should be referred to and studied in detail, though, there may not be enough indepth studies at this point of time as implementation is very slow, full of conflicts with the forest department and being subverted by the governments in the name of development.</p> <p>[Souparna Lahiri, India]</p>	Accepted and noted
4632	35	14			What is "usufruct"? [Michelle North, South Africa]	Accepted and noted
25046	35	31			"land tenure as a barrier to climate change adaptation"? Why, how? Do the authors mean land tenure insecurity? [Kirti Kusum Joshi, Nepal]	Prevailing land tenure systems may be a barrier to adaptation, either by producing tenure insecurity or in other ways
25048	35	35			"land tenure as a barrier to climate change adaptation"? Why, how? Do the authors mean land tenure insecurity? [Kirti Kusum Joshi, Nepal]	Prevailing land tenure systems may be a barrier to adaptation, either by producing tenure insecurity or in other ways

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14702	35	41			Three documents summarizes relevant information to both climate change and agriculture in Brazil, with focus on policy developments, action plans, programs and institutional make-up about land management (The World Bank, 2009; Brazil CGEE, 2016; Brazil Ministry of Foreign Affairs, 2017. Ref.: The World Bank, BRAZIL _ Country Note on Climate Change Aspects in Agriculture, The World Bank, 2009 [on line]: http://siteresources.worldbank.org/INTLAC/Resources/Climate_BrazilWeb.pdf Ref.: Brazil CGEE - Centro de Gestão e Estudos Estratégicos – Land degradation neutrality: implications for Brazil. Brasília, DF: 2016. 28p [on line]: https://www.cgee.org.br/documents/10195/734063/land-degradation-neutrality.pdf Ref.: Brazil Ministry of Foreign Affairs, Second Biennial Update Report of Brazil to the United Nations Framework Convention On Climate Change, 2017 [on line]: http://sirene.mcti.gov.br/documents/1686653/2091005/BUR2-ING-02032017_final.pdf/300f0dd3-67b1-4ee0-b168-bba272135941 [Rattan Lal, United States of America]	Accepted and noted
4636	35				Please ensure you explain the term REDD+ at first mention in this Chapter [Michelle North, South Africa]	Accepted and noted
11210	36	5	36	5	What are these incentives? [Debra Roberts, South Africa]	Clarified in rewritten section
4638	36	6	36	27	This section is also too literature-review-like and doesn't compile the evidence into an assessment. Please revise [Michelle North, South Africa]	Section has been rewritten for SOD
5526	36	14	36	15	Language problem repeating words "However, Quan et al. (2017), reporting on the early stages of REDD+ in Mozambique, report [claudio szlafsztein, Brazil]	Accepted and noted: section has been rewritten for SOD
11212	36	42	36	42	Insert 'of' before 'degraded' [Debra Roberts, South Africa]	added
4640	36	42			Change "forms to recovery" to "methods for recovering" [Michelle North, South Africa]	Accepted and noted
4300	37	6	37	6	Error in reference (not included) [Daniel Pazmino, Ecuador]	fixed
11214	37	6	37	6	Check reference error [Debra Roberts, South Africa]	fixed
2616	37	6	37	6	Reference source not found. [William Lahoz, Norway]	fixed
26102	37	32	37	32	In the case of the low agreement, some contrasting examples would be useful, of where any why certification works and where it does not. [Hans Poertner and WGII TSU, Germany]	This point is now better clarified
4648	37	41	37	43	This sentence ("Certification approaches for biofuel imports are now in place for sugar cane, soya, palm oil with impacts on land management practices in Europe and areas that grow these biofuels (Banse et al. 2011; Kavallari et al. 2014).") has been duplicated and should be deleted [Michelle North, South Africa]	Deleted.
27448	37	53	38	4	Biofuel production, particularly corn ethanol production, was one of the contributing factors to the food price crisis of 2007-2008. Discussion of this should be included here. There were several major important reports documenting this fact at the time. Certification is the wrong level of response for global systemic risks. [Doreen Stabinsky, United States of America]	The comment lies somewhat outside the scope because as the commented notes, these schemes cannot address market-wide effects like food prices. Have modified the text to reflect the comment that systemic issues like this are not covered by these schemes.
15960	37	31	42	32	This point has already been made [Debra Roberts, South Africa]	Change made in the sentence to avoid repetition with previous paragraph
4968	37	6			There is a reference error here [Michelle North, South Africa]	fixed
17670	37	6			missing references [Paul Hudson, Germany]	fixed

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
6314	37	9			change: There is to There are [Abdel-Hai Benali, Algeria]	changed
6316	37	12			change: classified in four to classified into four [Abdel-Hai Benali, Algeria]	changed
4642	37	15			Change the word order to "local environmental conditions" [Michelle North, South Africa]	changed
4644	37	16			What do you mean by "feedstock", as opposed to crops or other terms for animal feed etc? [Michelle North, South Africa]	feedstock includes all the different crops for food, fodder, fibre and fuels
4646	37	33			Omit "in general terms" [Michelle North, South Africa]	Deleted.
11670	37	40			Sentence repeated [Debra Roberts, South Africa]	Deleted.
4650	37	47			I think this should read "third-party countries", or "other countries" [Michelle North, South Africa]	Noted. third-party countries has been included
14704	39	1	40	2	The content of this scheme is not clear enough. What is the purpose of this table in the text? It shows that many standards repeat in general each other, and there is no so much difference in them, except last line considering Land Degradation fortunately. Maybe it would be better to explain this verbally instead of providing the table? [Rattan Lal, United States of America]	The table provides useful informaton and shows how the different standards cover similar issues but there is little evidence on land degradation inclusion in these schemes.
11218	39				Table 7.3 presents some useful information but it is missing the third pillar of sustainability. As with every other tables and figures, you need to provide the reader with some background information on how the table was compiled and what it means. [Debra Roberts, South Africa]	Explanation is provided and the economic pillar is included
4654	41	2	41	17	I am concerned that this section seems to imply that, because lack of access to 'modern' energy is correlated with poverty, food insecurity, limited adaptive capacity etc, correcting that lack of access will miraculously result in improvements to these other factors. With correlated factors this is not necessarily true; therefore I think it is important to either find literature that shows that supplying electricity will solve these other, related problems, or make it explicitly clear in the section that these problems are complex and supplying electricity to poor people will not automatically fix their poverty, food security or capacity to adapt to climate change. The way it is currently worded leaves room for mistinterpretation by donors hoping to magically fix poverty with a simple and relatively easy cure of supplying energy. The only 100% true benefits are reduced reliance on traditional biomass (benefits for land degradation) and improved indoor air quality, and the associated reductions in GHGs and improved health [Michelle North, South Africa]	The section does not say that energy provision alone will solve such problems; also the focus is on biomass because of its strong connection to land degradation and sustainable land management issues. The section does emphasise air pollution and health co-benefits. Electricity provision is beyond the scope here. Finally the text clearly uses the term "correlation" and does not talk about causation rather says that there do exist some potential synergies.
10450	41	5	41	5	"land degradation, household air pollution, GHG emissions and food insecurity." Health, sanitation, shoratge of livestock feed and fire hazard should be added [Zitouni Ould-Dada, Italy]	There is correlation with factors such as health and sanitation but we have listed here the main impacts that are attributable.
11220	41	31	41	31	What do you mean by 'focus on product-specific characteristics'? [Debra Roberts, South Africa]	the product being purchased as mentioned here - cookstoves
11672	41	1			This is the right place to point out that a section on sustainable energy other than biofuels would be useful (especially solar, but also hydroelectric battery systems, wind, tide, etc). Line 5-6 state that "heavy reliance on traditional biomass can contribute to ... GHG emissions". Contribute yes, but at what level? Compared to the fossil fuel based energy in the Global North? Electricity raises living standard and reduces poverty, for many reasons. So the key in both developing and developed countries alike is providing power without GHGs, and without the environmental risks of biofuels. [Debra Roberts, South Africa]	Agree with the role of sustainable energy but it is outside the scope of land-climate focus.
4652	41	3			Change "fuelwood" to just "wood" [Michelle North, South Africa]	Accepted and noted

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
5482	41	8			is a major source of. If not major, it is one of the causes / drivers [Daniel Danano Dale, Italy]	This should be clear from the context but some minor changes have been made to the section.
27450	41	36			This is not a particularly useful or accurate title. [Doreen Stabinsky, United States of America]	Accepted and title changed.
4656	41	43			Change to: "and climate change adaptation" [Michelle North, South Africa]	Accepted and revised and cofivepted and revised
11226	42	32	37	31	This point has already been made [Debra Roberts, South Africa]	Unclear which point reviewer is commenting on.
11222	42	2	42	2	Doubled from what to what? [Debra Roberts, South Africa]	Wording changed to clarify
4664	42	18	42	19	Modify to read: "Despite the usefulness of social protection systems and their role in improving... underline that their positive effects..." [Michelle North, South Africa]	Accepted and revised
4666	42	18	42	24	This paragraph is written more as a literature review than as an assessment [Michelle North, South Africa]	Accepted and amended.
11224	42	21	42	31	A coherent message needs to come through from this. You should attempt to come up with some attempt to explain why donor funding is effective in some cases and not in order. The message, in its present form, gives the reader a sense that donor funding is effective and ineffective and there is nothing further to take away from that. [Debra Roberts, South Africa]	Wording revised to clarify
4668	42	25	42	31	I'm not sure what the point of this paragraph is. What is the intended take-home message for the reader? [Michelle North, South Africa]	Wording revised to clarify message
4670	42	35	42	37	This sentence "There is a limitation of economic instruments to manage drought risk because drought effects have public good properties although there is still potential to manage part of drought risks using financial risks" makes no sense, please consider rewording it [Michelle North, South Africa]	Accepted and revised
20152	42	37	42	37	.....risks using financial risks (Garrido and Gómez-Ramos 2009). [Sabit Erşahin, Turkey]	copyedit to be completed prior to publication
4672	42	38	42	39	"climate-related", "insurance-related" [Michelle North, South Africa]	copyedit to be completed prior to publication
4676	42	41	42	44	This sentence is back-to-front (surely stronger public-private partnerships, enabling environments and policy incentives are needed for businesses to value climate risk management?) [Michelle North, South Africa]	copyedit to be completed prior to publication
4678	42	45	42	48	Modify to read: "Weather index insurance (e.g., index-based crop insurance) is being presented to low-income farmers and pastoralists in developing countries (...) to complement to informal risk sharing, reducing the risk of lost revenue associated with variations in crop yield, and providing an alternative to classic insurance ()." or similar [Michelle North, South Africa]	Accepted and revised
4658	42	4			"the number of countries in Africa with social safety net programs doubled" - could you please include the numbers here? One country to two countries is double, but isn't as impressive as 10 to 20 countries, for example. [Michelle North, South Africa]	Noted, wording revised
4660	42	6			Change word order to: "can effectively support resilience building..." [Michelle North, South Africa]	Accepted and revised
4662	42	7			What is meant by "at scale"? Please reword, and be specific by what scale is meant here [Michelle North, South Africa]	To scale means to increase in number or size. The term is used in this way here as well. However, we will reword it.
4970	42	16			Please correct this reference [Michelle North, South Africa]	copyedit to be completed prior to publication
6318	42	20			change: Furthermore it to Furthermore, it [Abdel-Hai Benali, Algeria]	Accepted and revised
6320	42	25			change: be rather patchwork to be rather patchworked [Abdel-Hai Benali, Algeria]	Accepted and revised
6322	42	27			change: and Sierra is to and Sierra are [Abdel-Hai Benali, Algeria]	Should be corrected to Sierra Leone
18980	42	27			Please write complete name of the country -Sierra [Aditi Khodke, Japan]	Accepted and revised.

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
4674	42	39			Use "creating insurance-related" or "establishing insurance-related" or "supporting insurance-related", rather than "setting insurance related..." [Michelle North, South Africa]	Accepted and revised
20358	42	44			How does the Meeting of Parties under the Paris Agreement influence decision-making at the international and national level so far? A sentence such as ibn line 36 at page 17, stating that the level of risk will be directly affected by the magnitude and rate of future climate change, does not seem to make clear enough for climate sceptics that there is a proportional increase. It could be worthwhile to give clearer figures for the below 2 scenario and the 1.5 degree Celsius warming scenario. [Petra Minnerop, United Kingdom (of Great Britain and Northern Ireland)]	Unclear change requested by comment
8012	43	1	43	40	It should be mentioned that in terms of effective drought mitigation plans, national/ regional/ global-tailored guidelines need to be used for initiating drought plans and strategies. This will lead to supporting these societies to cope with drought issue more effectively, according to the FAO report which can be accessed through the following link: http://www.fao.org/3/a-i4586e.pdf [Alaa Al-Hasani, Iraq]	Rejected as not peer review literature. The link is to the description of a program.
14706	43	1	43	40	Should be harmonized with the text about drought in Ch3, and cross-referencing [Rattan Lal, United States of America]	Accepted and revised
4302	43	6	43	6	Grammatical error: "Plan; Reactive". [Daniel Pazmino, Ecuador]	Accepted and revised
20154	43	6	43	6	.....reactive crisis management.... [Sabit Erşahin, Turkey]	Accepted and revised
4682	43	9	43	11	This sentence doesn't make sense, please reword [Michelle North, South Africa]	Accepted and revised
4686	43	13	43	14	This: "...while in other jurisdictions water property rights dictate through seniority preference rights who does or does not receive water...;" does not make sense, please reword [Michelle North, South Africa]	copyedit to be completed prior to publication
17672	43	13	43	17	change in referencing style [Paul Hudson, Germany]	copyedit to be completed prior to publication
4688	43	14	43	16	This should be a new sentence [Michelle North, South Africa]	Accepted and revised
4690	43	16	43	18	This sentence makes no sense, please reword [Michelle North, South Africa]	Accepted and revised
25406	43	34	43	34	How have these indicators been linked to social media. Provide an example. This sentence lacks substance [Rebecca Teasley, United States of America]	Accepted and revised
4692	43	34	43	36	This sentence doesn't make sense, please reword [Michelle North, South Africa]	copyedit to be completed prior to publication
20156	43	34	43	36	These indicators have been successfully linked with social media (Tang et al. 2015). There must be care exercised in these instruments not leading to perverse outcomes when linked to some forms of government support (Botterill and Hayes 2012). [Sabit Erşahin, Turkey]	copyedit to be completed prior to publication
20158	43	47	43	47	....management policies (Dellasala et al. 2004). [Sabit Erşahin, Turkey]	accepted and revised
21780	43	12	83	45	the replacement of the term "risk" should be mandatory only when it refers to the quantitative reasoning that supports the tool of "Risk Management", while the use of "risk" in a lay manner may be maintained [Manuel Cesario, Brazil]	copyedit to be completed prior to publication
4680	43	6			Period instead of semi-colon here [Michelle North, South Africa]	Accepted and revised
4684	43	12			Modify to read: "When responding to drought, some governments declare a state of emergency and implement water rationing, while in other countries..." [Michelle North, South Africa]	Accepted and revised
4694	43	37			Please include the section number rather than these references to page numbers to be consistent with other reports [Michelle North, South Africa]	Accepted and revised
6324	43	39			change: by arenas of to by areas of [Abdel-Hai Benali, Algeria]	Accepted and revised
6326	43	42			change: However this to However, this [Abdel-Hai Benali, Algeria]	accepted and revised

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4696	43	47			Remove the period before the reference [Michelle North, South Africa]	copyedit to be completed prior to publication
4304	44	2	44	4	The choice of fire suppression strategy also depends on the dynamics of the local meteorology. [Daniel Pazmino, Ecuador]	Accepted and amended
23880	44	10	44	10	It should say flood risk management [Urbano Fra.Paleo, Spain]	Accepted and amended
23882	44	10	44	10	planned adaptation is an uncommon policy thus there are not evidences that "is dominated by" [Urbano Fra.Paleo, Spain]	Accepted and amended
4706	44	16	44	17	This sentence "to provide price signals to stimulate autonomous adaptation countering barriers of path dependency and the time lag between private investment decision and consequences" is incomprehensibly long and complicated, please find a way to simplify it. [Michelle North, South Africa]	Accepted and edited
23884	44	17	44	17	land use plannig is not listed, except as flood zone building restrictions. Beyond this it is an instrument applicable to the hazards described and others not listed, it is a all-hazard approach [Urbano Fra.Paleo, Spain]	Accepted and added
23886	44	24	44	24	Economic instruments are examined under the section on hazards, and it does not fit well. Moreover a larger section on hazards is missing where the most important hazards are examined beyond fire, drought and floods, such as sorms and hurricanes, heat waves and other meteorological extremes. There is not an analysis of the links between hazardous areas and common land uses in those areas. [Urbano Fra.Paleo, Spain]	Rejected as outside the scope of this report. Heat has been added as a case study.
4714	44	25	44	26	I would recommend turning this sentence around to make more sense, for example "It is important that all available economic approaches and their limitations are considered when addressing the impacts of climate change ()" [Michelle North, South Africa]	Accepted. As suggested, we have addressed the overlaps with the other chapters
5528	44	26	44	27	reference repeated in the same phrase Surminski et al. 2016 [claudio szlafstein, Brazil]	There are actually two different references: Surminski 2016 and Surminski et al. 2016
74	44	30	44	30	donors can be public (multi or bi-lateral) or private [Nathalie Jeanne Marie Hilmi, France]	Accepted. As suggested, we have addressed the overlaps with the other chapters
4724	44	31	44	32	Please don't use "ex-ante" and "ex post", rather write what these technical terms mean in ordinary English, or include in the glossary and refer the reader to the glossary at first mention [Michelle North, South Africa]	Accepted. As suggested, we have addressed the overlaps with the other chapters
21174	44	24	45	36	There maybe a need to add one or two paragraphs to this section "Economic instruments", on the "Risk management procedures" that are already put in place and used by different multilateral environmental funds, for climate change (Mitigation and Adaptation) and Drought/Desertification activities, projects and programs such as the GEF and the GCF. Those tools are used to reduce/mitigate risks at all levels from Capacity building activities to implementable projects and programs. [Kamal Djemouai, Algeria]	Noted, we do have a section referring to these funds later (under financing mechanisms)
4698	44	1			"different to", not "different than" [Michelle North, South Africa]	Accepted
6328	44	4			change: In addition to In addition, [Abdel-Hai Benali, Algeria]	Accepted
6330	44	6			change: run off erosion to runoff erosion [Abdel-Hai Benali, Algeria]	Accepted
6332	44	11			change: However if to However, if [Abdel-Hai Benali, Algeria]	Accepted and amended
4702	44	13			Replace "As a result" with "Consequently," [Michelle North, South Africa]	copyedit to be completed prior to publication
4704	44	14			What is a "non-perverse subsidy"? I think there could be a better choice of words [Michelle North, South Africa]	copyedit to be completed prior to publication
4710	44	20			What is "environmental farm planning"? Do you mean "environmentally-friendly farm planning"? [Michelle North, South Africa]	copyedit to be completed prior to publication
4708	44	21			"Non-structural" [Michelle North, South Africa]	Accepted and noted
6334	44	25			change: from climate to of climate [Abdel-Hai Benali, Algeria]	Accepted

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4712	44	25			Rather say "A variety of economic instruments.." because "range" has a mathematical / statistical meaning that isn't relevant here [Michelle North, South Africa]	Accepted. As suggested, we have addressed the overlaps with the other chapters
4716	44	27			The reference is repeated twice [Michelle North, South Africa]	There are actually two different references: Surminski 2016 and Surminski et al. 2017
4718	44	27			It would be better to say "the assessment of" rather than "consideration of" [Michelle North, South Africa]	Accepted. As suggested, we have addressed the overlaps with the other chapters
4720	44	29			Not "a range of". Please rather use "different" or "several" or "a variety of" [Michelle North, South Africa]	Accepted. As suggested, we have addressed the overlaps with the other chapters
4722	44	31			"A second axis"? Rather say "Another way of organising...", or "A second method of organising..." [Michelle North, South Africa]	Accepted. As suggested, we have addressed the overlaps with the other chapters
4726	44	39			In an effort to reduce economic jargon, this "might be appropriate for ex post finance for..." could be written as "...might be appropriate for financing recovery and reconstruction..." [Michelle North, South Africa]	Accepted
11230	45	2	45	3	Interesting but can be problematic especially if the thresholds are not clearly defined. Also, who decides when the threshold has been crossed? [Debra Roberts, South Africa]	Noted, text has been clarified to describe the ways in which thresholds can be established when they are crossed
76	45	8	45	10	and weather derivatives [Nathalie Jeanne Marie Hilmi, France]	Incomplete comment. Please clarify. No action taken.
20160	45	8	45	10	Merge into previous pharagraph. [Sabit Erşahin, Turkey]	Accepted. As suggested, we have addressed the overlaps with the other chapters
11228	45	9	45	9	What do these acronyms mean? [Debra Roberts, South Africa]	Accepted. As suggested, we have addressed the overlaps with the other chapters
11232	45	11	45	11	Replace 'entry' with 'enter [Debra Roberts, South Africa]	Accepted
11234	45	11	45	15	Would have been useful to given example(s) of case studies where this have been successful/failed. [Debra Roberts, South Africa]	Accepted and in Flood case study 7.6
8790	45	16	45	27	Should include discussion of the limitations of contingency funds. As impacts and costs of impacts increase, contingency funds will be insufficient to pay for costs. E.g. Dominica sustained damages of 225% of its GDP as a result of Hurricane Irma in 2017. A contingency fund will be unable to meet these types of costs and will be particularly infeasible for multiple, high cost events [Delphine Deryng, Germany]	Noted and added
11236	45	20	45	20	Remove acronym 'IBRD' and write meaning in full. [Debra Roberts, South Africa]	Accepted
27452	45	44	45	46	solar farms and hydro-electric dams seem rather outside the scope of the report. [Doreen Stabinsky, United States of America]	Rejected, but text moved to chapter discussion of trade-offs and synergies in decision making.
15962	45	6	46	39	Interesting but would have been more helpful if a clearer linkage is made to land degradation. [Debra Roberts, South Africa]	Section more clearly linked.
11238	45	39	46	6	Interesting but would have been more helpful if a clearer linkage is made to land degradation. [Debra Roberts, South Africa]	Accepted and linkeage made.
6336	45	11			change: entry into to enter into [Abdel-Hai Benali, Algeria]	Accepted
6338	45	19			change: Option , a to Option, a [Abdel-Hai Benali, Algeria]	Accepted
4728	45	33			What are "ex ante impacts", and is it necessary to include the "ex ante" in the sentence at all? [Michelle North, South Africa]	Accepted
27454	45	38			This section should be framed in the context of land degradation, desertification, and food security. Much of the current content is not relevant. [Doreen Stabinsky, United States of America]	Accepted. Link to land degradation made.
4730	45	39			I think it would be good to define "NDCs" again, in this section [Michelle North, South Africa]	Rejected. Term defined in glossary.

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21176	46	7	46	15	The issue that risks may increase because of lack or absence of Means of Implementation (for example, in accordance with the provisions and decisions of the UNFCCC, the Paris Agreement and the UNCCD processes), has to be mentioned as an importance factor, in particular when it comes to "mobilization and provision of funding for developing countries". [Kamal Djemouai, Algeria]	Accepted, Revised accordingly to try to incorporate accepted text.
4736	46	14	46	15	There is something wrong with this "(),Intended Nationally Determined Contributions...", please correct [Michelle North, South Africa]	Accepted and noted
20162	46	14	46	15	.....Brechtin and Espinoza 2017)), Intended Nationally Determined Contributions and Nationally Determined Contributions. [Sabit Erşahin, Turkey]	copyedit to be completed prior to publication.
3762	46	16	46	20	Closing the 2030 gap will not by itself keep us below 2 degrees warming. What about land implications 2030-2100? [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Accepted and revised. Land implications in chapter 3 and 4
10454	46	20	46	20	The paragraph above (page 47 line 26) and the statement on page 46 line 20 (Agriculture is well represented in adaptation and mitigation strategies of parties to the Paris Agreement and the Intended Nationally Determined Contributions with much attention to conventional agricultural practices) seem are presenting different stories. Better to reconcile the two and perhaps make clear the context upon which the two were presented [Zitouni Ould-Dada, Italy]	Accepted and revised
1644	46	28	46	32	Climate change litigation already emerged, I suggest to check Climate Change Litigation Databases at climatecasechart.com, to get an idea of the number and type(s) of cases [Francesca Spagnuolo, Italy]	Rejected as not included in peer reviewed published literature
26104	46	39	46	40	Adaptation to what? and costs for whom? Please be more specific, and refer to the land challenges. [Hans Poertner and WGII TSU, Germany]	Noted, Revised accordingly to try to highlight links between finance and land use/ land change policy options
11240	46	39	50	33	It is important to focus on the object of this special report. While it is interesting to note the different financial mechanism and other climate change financial issues, what is important here is a special focus on the aim of this report. [Debra Roberts, South Africa]	Noted, Revised accordingly to try to highlight links between finance and land use/ land change policy options
15964	46	33	53	39	It is important to focus on the object of this special report. While it is interesting to note the different financial mechanism and other climate change financial issues, what is important here is a special focus on the aim of this report. [Debra Roberts, South Africa]	Noted, Revised accordingly to try to highlight links between finance and land use/ land change policy options
4732	46	9			What is meant by "above this floor"? Please reword for clarity [Michelle North, South Africa]	Accepted. As suggested, we have addressed the overlaps with the other chapters
4734	46	13			Please write out LDCs and SIDs in full. [Michelle North, South Africa]	accepted and revised
5484	46	15			Intended Nationally Determined Contributions and and nationally determind contributions. Whether intended or unintended they have the same objective and goals. Why to mention the two here at the sametime? [Daniel Danano Dale, Italy]	Accepted and revised
6340	46	18			change: on a least cost to on the least cost [Abdel-Hai Benali, Algeria]	Accepted and revised
5488	46	20			The paragraph above (page 47 line 26) and the statement on page 46 line 20 (Agriculture is well represented in adaptation and mitigation strategies of parties to the Paris Agreement and the Intended Nationally Determined Contributions with much attention to conventional agricultural practices) seem are presenting different stories. Better to reconcile the two and perhaps make clear the context upon which the two were presented [Daniel Danano Dale, Italy]	Accepted and revised
6342	46	24			change: that include to that includes [Abdel-Hai Benali, Algeria]	Accepted and revised

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6344	46	31			change: will be claims against to will be claimed against [Abdel-Hai Benali, Algeria]	Rejected. Incorrect legal terminology suggested
6346	46	33			change: to employ rights to to employee rights [Abdel-Hai Benali, Algeria]	Rejected. Incorrect legal terminology suggested
11216	47	47	37	47	What do you mean by ' third countries'? [Debra Roberts, South Africa]	Can not find the use of this term. But section has been re written.
9554	47	3	47	5	REDD+ is listed here as "financing mechanism", which is clearly wrong. REDD+ is a framework which can and is be used for results-based payments in forest mitigation by different bilateral and multilateral arrangements. However, by itself REDD+ doesn't deliver any finance. [Dirk Nemitz, Germany]	Noted and corrected.
21178	47	3	47	5	"CDM" is one of the three flexible mechanisms of the Kyoto Protocol and aims to support "Sustainable Development through CERs trade between Developed and Developing Countries" and is not a "Financial Mechanism, even if its a "Market Mechanism" that has its limits. And "CDM" issue, may also need to be considered under the section on "Mitigation instruments" (page 48, lines 32-49) rather than under this section. [Kamal Djemouai, Algeria]	noted and removed
4740	47	3	47	5	Please write out IMF, IFC, CDM, and European Union [Michelle North, South Africa]	Noted and corrected.
4742	47	5	47	8	Do we really need acronyms for Global Environmetnal Fund (GEF) and state investment banks (SIBs)? Please remove these acronyms [Michelle North, South Africa]	Acronyms are listed because they may be used again in the text. Due to space limitations the use of acronyms may be necessary in some instances.
21336	47	6	47	6	the following sentence "form of concessional loans and grants" may need to be replaced by the following suggestion "form of different financial instruments, including, but not limited to, loans, concessional loans, grants,...", even for public finance, cause under any financial/operating entity its difficult and not always possible to know if the funding provided is coming from public or other source. [Kamal Djemouai, Algeria]	Accepted and revised accordingly.
3764	47	16	47	23	Example of something not specific to land [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Accepted and revised. However some general information on finance sources and gaps are needed to set the scene.
4744	47	17	47	18	Please rather refer to the proper title of the 1.5 report (i.e., "Special Report on Global Warming of 1.5 °C"), and reference it correctly at the end of this sentence [Michelle North, South Africa]	Accepted.
21180	47	24	47	36	There maybe a need to add some information on the availability/access to fundings for the forest and land degradation sectors (REDD+,...) through different financial facilities and institutions such as GEF, GCF,... which exist and are on-going even on pilot/demonstration basis. [Kamal Djemouai, Algeria]	Good point. Accepted but relevant literature is being sought to provide such details.
5002	47	24	47	36	It might strengthen the report to harmonise the use of terms such as 'triple wins', as this is the first time this word is used in this report. For example, Chapter 6 makes reference to 'no regrets' options, which deliver wins and do not adversely affect other processes or objectives, while this is not referred to in Chapter 7. Coordination between Chapter 6 and Chapter 7 on what terms to use to discuss options or challenges that are interlinked might enhance linkages between the two chapters. [Renee van Diemen, United Kingdom (of Great Britain and Northern Ireland)]	Accepted. Changed to no regrets.
10452	47	26	47	26	"Much of the funding for agriculture is accessed through adaptation funds, rather than the much larger pool for mitigation, and they may potentially be in competition with each other (Lobell et al. 2013)." The role of agriculture in playing the role of both mitigation and adaptatiion described in the sections on land degradation and desertification in the present IPPC work would increase visibility of agriculture in climate change. This is could be one of the central purposes of this report [Zitouni Ould-Dada, Italy]	Same comment as the one above. Yes, this report does that.

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
4738	47	3			Please avoid using "a range of" when referring to non-numeric subjects. Please use "a variety of" or "a number of" or "Numerous" [Michelle North, South Africa]	Accepted.
4746	47	20			Use "and" instead of "as well as" here [Michelle North, South Africa]	Accepted. Text in this section revised.
5486	47	26			Much of the funding for agriculture is accessed through adaptation funds, rather than the much larger pool for mitigation, and they may potentially be in competition with each other (Lobell et al. 2013). The role of agriculture in playing the role of both mitigation and adaptation described in the sections on land degradation and desertification in the present IPCC work would increase visibility of agriculture in climate change. This needs to be one of the central purposes of this report. There is growing understanding of the role of agriculture in managing GHG cycle [Daniel Danano Dale, Italy]	Accepted and reference added.
4748	47	34			Please remove the acronym "PES" [Michelle North, South Africa]	PES is short for Payments for Ecosystem Services which is written out in full prior to the use of PES
20164	48	4	48	4	.....renewable energy (Holstenkamp and Kahla 2016). [Sabit Erşahin, Turkey]	Accepted and revised.
4752	48	9	48	11	Could "Auctioned price floors" be explained in more detail or be more clearly worded for non-economists to understand? (what is a price floor or floor price?) [Michelle North, South Africa]	Noted. Section revised.
3766	48	13	48	26	SRCL is not the place to explain blockchain/bitcoin!!!! [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Removed
3768	48	46	49	7	Carbon tax not land specific - actually energy related at a practical level [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Taken into account and explanation added at beginning of GHG section of relation to climate mitigation and chapter 2.
516	48	32	50	9	A very important mitigation mechanism is the removal of fossil fuel subsidies. See OECD Inventory of Support Measures for Fossil Fuels 2015 [Dror Etzion, Canada]	Accepted and added
3876	48		50		The section is focusing only on market-based mitigation instruments, i.e. carbon pricing and the cap and trade system. There are much more instruments that could be explored: e.g. rationing, quotas, subsidies, restricting the use or extraction of fossil-fuels, decentralization of energy production; as well as a whole range of "soft" options such as educational and information campaigns, social norms. [Ilona M. Otto, Germany]	Many of the other soft mechanisms suggested are discussed at other point in the chapter.
27456	48	17			Bitcoin is actually hugely energy intensive and not really a climate solution. https://www.marketwatch.com/story/bitcoin-mining-poses-threat-to-paris-climate-change-accord-study-finds-2018-08-01 [Doreen Stabinsky, United States of America]	Thanks. This section is removed.
6348	48	22			"Gainforest" maybe the authors mean "Rainforest" [Abdel-Hai Benali, Algeria]	This name is correct but the paragraph is now removed.
4754	48	34			Remove the acronym SCC, it is unnecessary [Michelle North, South Africa]	Accepted and revised.
6350	48	36			change: economy results to economy result [Abdel-Hai Benali, Algeria]	Accepted and revised.
4750	48				Remove the acronyms PPAs and PAF, write out [Michelle North, South Africa]	Again, use of acronyms is needed to avoid having to repeat the full name.
4758	49	6	49	7	This "A fuel tax has also reduced emissions in the transportation sector (Rivers, Nicholas, Schaufele 2015)" needs to be placed somewhere earlier in the paragraph; where it is at the moment implies that it is related to examples of poorly designed carbon taxes [Michelle North, South Africa]	Accepted and revised
26754	49	8	49	33	An input for the C-tax vs cap-and-trade presentation. If actors are to have incentives to implement SCS, NET or BECCS technologies, they need to be gain on the C removed. Innovation is much needed - and there is a strong need to promote and incentivise innovation and development of "no-regret" mitigation strategies. We need the innovation at local scale as well as at regional/national scale. [Knud Christensen, Denmark]	Noted. Innovation covered under decision making

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3770	49	17	49	33	Land emissions not inside cap and trade - though New Zealand considering [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Noted and referenced.
27460	49	34	49	37	There are far more implementation challenges, perhaps evidenced by the fact that many have wanted a market in the land sector for decades and there are few successful examples to point to. This history and a deeper consideration of challenges is needed here. [Doreen Stabinsky, United States of America]	Rejected. Support by peer-reviewed literature required
4756	49	2			80-90%, really? Is this of all emissions in the US, or just the proportion of the emissions they need to cut to meet their NDCs? Please specify [Michelle North, South Africa]	Noted and referenced.
4760	49	8			Please delete "ETS", the acronym is unnecessary [Michelle North, South Africa]	Accepted and revised
27458	49	17			There are so many substantive differences between CO2 and SO2, and related cap and trade systems, that this sentence is not very useful. Please provide context for SO2 claim and assessment of differences. [Doreen Stabinsky, United States of America]	Accepted and revised
6352	49	18			change: in little to in a little [Abdel-Hai Benali, Algeria]	Noted and referenced.
6354	49	21			change: than will be to that will be [Abdel-Hai Benali, Algeria]	Section revised
6356	49	48			change: complimentary to complementary [Abdel-Hai Benali, Algeria]	copyedit to be completed prior to publication
21182	50	9	50	9	Issues related to article 6 of the Paris Agreement need to be inserted rather under "Mitigation Instruments" then to be added as is to Technology Transfer Section. This may also be confusing when it come to quote "adaptation technologies". [Kamal Djemouai, Algeria]	Accepted and moved.
11248	50	9	55	11	Attention to the focus of this report is missing in this sub-section. [Debra Roberts, South Africa]	This section is relevant because international cooperation on land use and land-based mitigation is important for responding to the threat of land degradation and the need for sustainable land management and is fairly fundamental to the report in terms of policy response and risk management.
20890	50	24			This comment applies in fact to the whole chapter, not necessarily to only the given page and line. Intellectual property is an issue in climate change mitigation and adaptation and therefore should be mentioned in this chapter, as element perceived as conditioning decision-making in areas related to climate change. The comment has been split in the rows below. [Francisco Javier Hurtado Albir, Germany]	IPRs are essential for technology transfer, but play a more important role in the energy and industry sector than in agriculture and forestry. Additional literature research and literature seem to suggest that in poorer land systems, patents are generally more inhibiting than favoring the adaptation of agricultural and other land systems to climate change or to reduce their emissions. However, the relationship is subtle and complex with diffusion being considered the bigger problem than innovation. Have added a couple of sentences and references.
4762	50	28			What is CDM? Please write out [Michelle North, South Africa]	The Clean Development Mechanism. Done.
6358	50	42			change: however there to however, there [Abdel-Hai Benali, Algeria]	Done.
6360	50	43			change: Unlike mitigation to Unlike mitigation, [Abdel-Hai Benali, Algeria]	Done.
11674	51	5	51	8	This sentence is not clear. [Debra Roberts, South Africa]	Tried to clarify.
14708	51	10	51	27	I think the topic of the role of land use sectors (as it is announced in the title of the section) is not well described. The only general description of the Article 6 of the PA is too weak for this matter. Authors should provide some particular examples, e.g. on how emissions are accounting in land use sectors and what are the challenges/results/effects of technology transfer [Rattan Lal, United States of America]	Have added reference to readiness and monitoring technologies. Have kept it fairly general though since there will be other sections of the report that deal with forest and land use monitoring and relevant data collection systems. The point here is that Article 6 could facilitate the transfer of these technologies.
11244	51	34	51	34	AFOLU [Debra Roberts, South Africa]	Acronym removed
11246	51	34	51	34	AFOLU was used only once in this chapter. Delete acronym and writing meaning in full. [Debra Roberts, South Africa]	Acronym removed

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
27462	51	10	52	11	What opportunities Article 6 will or will not bring is still being negotiated. Article 6 is very vague in its language -- there should be a placeholder here until mechanisms and rules are established. This discussion is highly speculative. [Doreen Stabinsky, United States of America]	Many issues in the policy domain are speculative but it is relevant to consider these emerging issues in this particular chapter, which differs from other chapters in this respect. Have made it clear that the rules are still being formulated. The relevant section remains sufficiently vague to cover the various negotiation outcomes that will operationalize the article.
4764	51	34			What is "AFOLU sector"? Please explain the acronym [Michelle North, South Africa]	Acronym removed
6362	51	39			change: as well as technologies to developing country Parties to , as well as technologies to developing country Parties, [Abdel-Hai Benali, Algeria]	Done
11250	52	2	52	2	Insert 'that' before 'while' [Debra Roberts, South Africa]	Accepte
4768	52	16	52	17	Modify to read: "...is a challenge faced by both developed and developing countries ()." [Michelle North, South Africa]	Done
4770	52	17	52	20	Please end the previous sentence after "developing countries ()" and rewrite the phrases starting with "overly focused on sectors...act as barriers ()" because the way it is currently doesn't make sense. OR, depending on the original intended meaning, one could also go: "...developing countries (), complicated by excessive focus on sectors instead of sustainable use...services (), with policy capacity and the availability of human, financial and technical resources acting as barriers ()." [Michelle North, South Africa]	Accepted and noted
4972	52	24	52	25	I don't think "Field and Intergovernmental Panel on Climate Change. 2012" is the correct reference [Michelle North, South Africa]	Accepted and revised
4778	52	34	52	35	"Research in the area of interacting suites of policies workign together..." [Michelle North, South Africa]	Accepted and revised
11252	52	43	53	15	Again, this is quite broad with no specific focus on this report. In addition, one would expect that an assessment of the effectiveness of the policy instruments should be a task for this report instead of proposing it as a direction for future studies. If there is gap in the literature and you are unable to perform this kind of assessment, this should be clearly stated. [Debra Roberts, South Africa]	Accepted and revised
4766	52	2			Please write out "ITMOs" [Michelle North, South Africa]	The acronym is introduced on the previous page.
4772	52	22			What are "CBA and EBA initiatives"? Please write out [Michelle North, South Africa]	Accepted and revised
27464	52	32			This framing is far too broad for this report. It's a special report on land degradation, desertification, and food security in the context of climate change. It is too far reaching to discuss a "climate mitigation policy portfolio." That is more appropriately placed in AR6. Discussion here should focus on what is relevant for land degradation, desertification, and food security. [Doreen Stabinsky, United States of America]	Accepted and revised
4774	52	33			Is this meant to be "learning" or would it be better to say "education"? [Michelle North, South Africa]	Rejected. This is the act of learning not that of educating
4776	52	34			Change to "Considering the interactions..." [Michelle North, South Africa]	Accepted and revised
26106	52	42			Suggest to add the long-term perspective here as well, e.g. in terms of monitoring, maintenance of response options [Hans Poertner and WGII TSU, Germany]	Accepted. See Adaptive management adaptive governance and performance indicator sections

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21434	53	8	53	8	Iterative risk management is an approach based on the cycle of disaster, however disasters occur simultaneously in different parts of the country, or in a timeframe that did not allow to recover from the former. Policy is continuously being adjusted [Urbano Fra.Paleo, Spain]	The reviewer comment is not clear -- The sentence commented upon is in harmony with the reviewer comment so has not been changed. The sentence reads "Iterative risk management is an on-going process of assessment, action, reassessment and response " and the reference is Mochizuki, J., Vitoontus, S., Wickramarachchi, B., Hochrainer-Stigler, S., Williges, K., Mechler, R., & Sovann, R. (2015). Operationalizing iterative risk management under limited information: Fiscal and economic risks due to natural disasters in Cambodia. International Journal of Disaster Risk Science, 6(4), 321–334. https://doi.org/10.1007/s13753-015-0069-y
9466	53	10	53	17	Prescriptive language. The word 'should' is also used at several other instances in the chapter, please check [Minal Pathak, India]	Accepted and revised
9458	53	13	53	13	"Policymakers should" - sounds prescriptive [Minal Pathak, India]	Accepted and revised
21436	53	16	53	17	The role of evaluation has been reviewed -as pointed formerly- by Fra.Paleo in http://www.scopus.com/inward/record.url?eid=2-s2.0-84943338994&partnerID=MN8TOARS and https://link.springer.com/chapter/10.1007/978-94-007-7981-5_9 [Urbano Fra.Paleo, Spain]	Accepted and taken into account
27466	53	30	53	40	Irrelevant to this report. Remove this paragraph. [Doreen Stabinsky, United States of America]	Accepted. See Decision Making and Governance sections
24544	53	18	54	40	Very recent publications are addressing SDG coherence and the challenges associated to co-benefits and side effects of policy related to SDG targets. It is worth complementing and enhancing the text on trade offs with literature such as: Allen, Cameron, Graciela Metternicht, and Thomas Wiedmann. "Prioritising SDG targets: assessing baselines, gaps and interlinkages." Sustainability Science (2018): 1-18. | Allen, C., Metternicht, G., & Wiedmann, T. (2018). Initial progress in implementing the Sustainable Development Goals (SDGs): a review of evidence from countries. Sustainability Science, 1-15. | Bryan, B. A., Nolan, M., McKellar, L., Connor, J. D., Newth, D., Harwood, T., ... & Grundy, M. (2016). Land-use and sustainability under intersecting global change and domestic policy scenarios: trajectories for Australia to 2050. Global Environmental Change, 38, 130-152. [Barron Joseph Orr, Germany]	Accepted and noted
6736	53	18	54	40	Very recent publications are addressing SDG coherence and the challenges associated to co-benefits and side effects of policy related to SDG targets. It is worth complementing and enhancing the text on trade offs with literature such as: Allen, Cameron, Graciela Metternicht, and Thomas Wiedmann. "Prioritising SDG targets: assessing baselines, gaps and interlinkages." Sustainability Science (2018): 1-18. Allen, C., Metternicht, G., & Wiedmann, T. (2018). Initial progress in implementing the Sustainable Development Goals (SDGs): a review of evidence from countries. Sustainability Science, 1-15. Bryan, B. A., Nolan, M., McKellar, L., Connor, J. D., Newth, D., Harwood, T., ... & Grundy, M. (2016). Land-use and sustainability under intersecting global change and domestic policy scenarios: trajectories for Australia to 2050. Global Environmental Change, 38, 130-152. [Graciela Metternicht, Australia]	Accepted. As suggested, we have addressed the overlaps with the other chapterse

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
14710	53	18	54	40	Very recent publications are addressing SDG coherence and the challenges associated to co-benefits and side effects of policy related to SDG targets. It is worth complementing and enhancing the text on trade offs with literature such as: Allen, Cameron, Graciela Metternicht, and Thomas Wiedmann. "Prioritising SDG targets: assessing baselines, gaps and interlinkages." Sustainability Science (2018): 1-18. Allen, C., Metternicht, G., & Wiedmann, T. (2018). Initial progress in implementing the Sustainable Development Goals (SDGs): a review of evidence from countries. Sustainability Science, 1-15. Bryan, B. A., Nolan, M., McKellar, L., Connor, J. D., Newth, D., Harwood, T., ... & Grundy, M. (2016). Land-use and sustainability under intersecting global change and domestic policy scenarios: trajectories for Australia to 2050. Global Environmental Change, 38, 130-152. [Rattan Lal, United States of America]	Accepted and noted
4780	53	11			"To evaluate effectiveness, researchers, program managers..." [Michelle North, South Africa]	copyedit to be completed prior to publication
27468	53	18			What does this have to do with land degradation, desertification, and food security? This is not a report about the SDGs. [Doreen Stabinsky, United States of America]	Accepted and SDGs moved to indicators
4974	53	23			Italicize "high agreement" [Michelle North, South Africa]	Accepted and noted
11254	54	11	54	13	This SR has not been published and should be cited as forthcoming. Check across chapter and address accordingly. [Debra Roberts, South Africa]	Accepted and noted
4976	54	13			Please insert a placeholder for the correct referencing of SR1.5 [Michelle North, South Africa]	Accepted and noted
3488	54	28		30	one danger here: A nexus approach might also be (used as) a silo approach [Cordula Ott, Switzerland]	Reviewer comment unclear
3772	55	1	55	1	Good use of a box! [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Noted
4796	55		57		For future drafts, please rather follow the format of SR1.5 and use a placeholder "CROSS-CHAPTER BOX BEGINS / ENDS" and then include the text (not in a textbox) so that the lines are numbered. The way it is presently makes it difficult to specifically identify lines that need editing [Michelle North, South Africa]	Accepted. Marked the beginning and end of the cross chapter box
3490	55	1			Box: further develop: gender inequality as a specific analytical lens: Rationale and trscuture of Gender analysis not very well elaborated Gender discussion includes men... men also are in traps/relationship is important/ social status of men and women... agency of men and women and improved relationship [Cordula Ott, Switzerland]	Accepted and Revised
5530	55				reference very old Besarup 1970 [claudio szlafsztein, Brazil]	Accepted. As suggested, we have addressed the overlaps with the other chapters
11256	55				Replace 'played' with 'play' in the cross-chapter box [Debra Roberts, South Africa]	copyedit to be completed prior to publication
4782	55				First line after "The Framework": please change "played" to "play" [Michelle North, South Africa]	Accepted and noted
4784	55				Are these figures (dominant role in agriculture, 43% of workforce etc) global or for a specific region? Please include the location in this part of the sentence [Michelle North, South Africa]	Accepted and noted
4786	55				The first sentence of the section titled "The Framework" needs to be rewritten to be more concise and improve the grammar [Michelle North, South Africa]	Accepted and noted
4788	55				Please rather include the number of countries rather than as percentages in the following: "in only 37% of 161 countries...and in 59%"... [Michelle North, South Africa]	Accepted and noted

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4790	55				I think it would be better to say something like: "are often not included in community organisations" (if that is what is meant), rather than stating that women "are not organised" [Michelle North, South Africa]	Accepted and noted
4978	55				Cross-chapter box: Please insert a placeholder for the correct referencing of SR1.5 [Michelle North, South Africa]	Accepted. SR1.5 reference added
7146	56			56	3rd para, line 2 in the Box on "Gender and climate change literature": Is the term "disadvantaged groups" used interchangeably for the term 'vulnerable [marginalised] groups': If so, then it would be useful to align terminology throughout the chapter and preferably using the term 'vulnerable' due to the reason provided above. for page 28. [Mariam Akhtar-Schuster, Germany]	Accepted and Revised
4792	56				The following sentence is incomplete, please reword: "Quantitative methods have not helped in mapping these relationships and hence, identifying integrative approaches; in particular there is suggestion participatory adaptation should be adopted (Jost et al. 2016)." [Michelle North, South Africa]	Accepted and noted
4794	56				If such a large proportion of subsistence or small-scale farming is done primarily by women, then why is it that "female-headed households" are not granted the on-farm adaptation methods mentioned here? Surely there is no barrier to a female farmer from implementing mixed cropping or planting trees when she already carries the main burden of the farm as it is? [Michelle North, South Africa]	Accepted and Revised
26108	57	1	57	2	The final section of the box lacks explicit reference to gender dimensions [Hans Poertner and WGII TSU, Germany]	Accepted and Revised
8792	57	4	59	11	There is no discussion of financial limits and barriers besides the mention that they exist. Financial limits and barriers need to be discussed in further detail as this is often one of the most significant challenges facing adaptation in developing countries. Lack of domestic funds, inability to access international climate funds and funding limitations of climate funds all affect adaptation for developing countries. [Delphine Deryng, Germany]	Accepted. Financial limits and barriers were addressed
21184	57		59		There seems to be a missing of a major and important "barrier and limit" to Adaptation, under this section. It may be drafted as follows : One of the most important barriers/limit to "Adaptation" is lack of mobilization and provision of enough accessible financial resources, in particular, grant-based funding for adaptation project and program activities, that need to allow prioritized implementation for NAPs and NAPAs". [Kamal Djemouai, Algeria]	Accepted and Revised
4798	57				INDCs? Please write out, or correct to NDCs [Michelle North, South Africa]	Accepted and noted
4800	57				Correct to read: "participate on an equal basis with men" [Michelle North, South Africa]	Accepted and noted
4980	57				Italicize "high agreement, but limited evidence" [Michelle North, South Africa]	Accepted and noted
9660	58	16	58	16	Oberlack 2017 found malcoordination traps, unclear responsibilities, leadership trap leading to power misuse and stall social learning as major barriers in Europe. REF: Oberlack, C. (2017). Diagnosing institutional barriers and opportunities for adaptation to climate change. Mitigation and Adaptation Strategies for Global Change, 22(5), 805-838. [Markus Giger, Switzerland]	Accepted. Reference was inserted
9662	58	16	58	16	Oberlack, C. (2017). Diagnosing institutional barriers and opportunities for adaptation to climate change. Mitigation and Adaptation Strategies for Global Change, 22(5), 805-838. [Markus Giger, Switzerland]	Accepted. As suggested, we have addressed the overlaps with the other chapters. Reference was inserted
4802	58	31	58	32	There is a problem with this quote, please check the original: "adaptation the changes the fundamental attributes of a system in response to climate and its effects" [Michelle North, South Africa]	Accepted. Revised based on the original reference.

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
8014	58	7	59	48	The section of "Adaptation limits and barriers" has been written well, in particular in terms of covering the main limits and barriers. Nonetheless, the natural limits (physical and ecological) which represent the natural barriers and limitations to adaptation has not been covered in this section. In fact, only the social limits i.e. (institutional, normative and cognitive), and human and informational resources-based limits i.e. (technological, knowledge and economical) have been mentioned. Thus, I suggest other important publications that provide an overview on this topic in order to strengthen the given evidence, which are: 1- Jones, L., 2010, Background note: Overcoming social barriers to adaptation, The Overseas Development Institute, https://www.preventionweb.net/files/14667_49451.pdf . 2- Barnett, J., L. S. Evans, C. Gross, A. S. Kiem, R. T. Kingsford, J. P. Palutikof, C. M. Pickering, and S. G. Smithers. 2015. From barriers to limits to climate change adaptation: path dependency and the speed of change. Ecology and Society 20(3): 5. http://dx.doi.org/10.5751/ES-07698-200305 . [Alaa Al-Hasani, Iraq]	Accepted and Revised. Natural limits have been added.
27470	59	36	60	16	The title of this section does not seem to match its content. The content does not seem to match the theme of the special report. [Doreen Stabinsky, United States of America]	Accepted and revised. The aspect of land was added.
5532	59	8			"Southern Ocean" is not a well-defined geographical region [claudio szlafsztstein, Brazil]	Accepted. Southern Ocean --> Antarctic Ocean
6364	59	16			change: o adapting to o adapte [Abdel-Hai Benali, Algeria]	Accepted and changed
11676	59	33			What exactly does this sentence refer to? [Debra Roberts, South Africa]	Accepted and revised
11242	60	28	50	28	Replace 'for' with 'of' [Debra Roberts, South Africa]	Not clear what this refers to?
9666	60	7	60	16	The issue of policy coherence or the absence if it is not discussed in depth here or in other chapters. Lack of policy coherence can deeply distort incentives and deprive countries of possibilities to invest in sustainable land management. I have already commented on this regarding chapter 5. This topic should be treated more in depth in the whole chapter to. REF: Bonanomi, E. B. (2015). Sustainable development in international law making and trade: International food governance and trade in agriculture. Edward Elgar Publishing.§ [Markus Giger, Switzerland]	Accepted and noted in informal decision making section.
11258	60	44	61	26	Characterising decision-making in the context of climate change as primarily formal is quite problematic. There is ample literature suggesting that decisions (across all levels of governments and in the international context) is often largely underpinned by informal rules and this should be reflected in this section. Informal decision-making is not only in the context of traditional system/governance. see https://dlc.dlib.indiana.edu/dlc/ and http://press.georgetown.edu/book/georgetown/managing-within-networks for more resources for studies informal institutions/ governance. [Debra Roberts, South Africa]	Accepted and noted in informal decision making section.
21306	60	43	62	19	One surprising omission in this part of the discussion and literature reviewed as part of decision making is the complete absence of the mention of FPIC, Free Prior Informed Consent as mandated by the UNDRIPS, and this is unfortunate. To protect forests, conserve biodiversity, halt deforestation and livelihood loss and tackle climate change, FPIC should be an important tool to formalise decision making in any scenario to facilitate the voice of the communities, recognition of their traditional knowledge and practices and also considering them as part of governance. [Souparna Lahiri, India]	Accepted and covered in the Indigenous knowledge section.

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
3878	60		64		<p>The entire section on Decision-making, in particular Decision-making under uncertainty could take into account the evidence from behavioral experiments and in general behavioral economics and decision science. To give an example, decision science shows that uncertainty leads either to ignorance or to overconfidence, for example by generalizing from small samples or overestimation of small probabilities. People use different coping strategies to cope with uncertainty. Typical coping strategies include (i) reducing uncertainty i.e. searching for additional information before making a decision; (ii) acknowledging uncertainty, i.e. by either taking the uncertainty into account in selecting a course of action, or by preparing to avoid or confront a potential risk; and (iii) suppressing uncertainty, i.e. denial by ignoring or distorting undesirable information. The last strategy is closely related to the (false) sense of security of believing that 'the unfortunate outcome cannot happen to me'. Severe scarcity often shortens society's time horizons and might shift funds from savings to consumption, and from investment in long-term adaptation to immediate tasks of scarcity management. To give an example, in the face of agricultural production shortfalls caused by soil erosion, some societies might invest in fertilizers and imports, while others might invest in research on erosion-resistant crops. The chaotic nature of social-ecological systems makes it difficult to anticipate the consequences of various adaptation and intervention strategies.</p> <p>Complexity and unclear feedbacks, which are typical of social-ecological systems, might further hinder adaptation. E.g. in my research in China I observed that although stakeholders in drought-affected areas were aware of water scarcity, they used different mental models to assess the future water availability. Some were saying that after several dry years, a longer wet period must finally come. Such presumptions contradicted climate and water availability projections for the research area. In the face of environmental and social complexities affecting drought management, the local administrators argued that dealing with water scarcity was not within their competencies and another office or bureau should deal with it. In other words, the strategy of coping with the uncertainty and complexities was not to neglect the problem as such, but to absolve their responsibility to address it. Some references: Lipshitz, R., & Strauss, O. (1997). Coping with Uncertainty: A Naturalistic Decision-Making Analysis. <i>Organizational Behavior and Human Decision Processes</i>, 69(2), 149–163; Tversky, A., & Kahneman, D. (1973). Availability: A Heuristic for Judging Frequency. <i>Cognitive Psychology</i>, 232, 207–232; Knight, F. H. (1921). <i>Risk, Uncertainty, and Profit</i>. New York: Hart, Schaffner & Marx; Otto, I. M., Wechsung, F., Wang, X., Möhring, J., & Tan, R. (2016). Water scarcity impacts and challenges of water governance in the Guanting Basin, North China. In: Borchardt, D.,</p>	Noted, thank you for the refs. In general we need to keep references to recent literature however we have added insights from behavioural economics into the decision-making section
18902	60	18	78	11	linking with other chapters is important [Jianguo Wu, China]	Noted and we have attempted to do this
4804	60	4			It is unnecessary to include the acronym "(EbA)" here [Michelle North, South Africa]	Noted. relates to previous section
27472	60	18			This section is very general and theoretical and mostly untethered to the content of the special report. It could be significantly reframed and downsized, so that it contains land-relevant examples and information and fits into the special report. The more general textbook like discussion is more appropriate for AR6. [Doreen Stabinsky, United States of America]	Noted, we have revised and restructured this section so that it addresses the topics of the special report more directly and succinctly
26110	60	18			This section would be a great opportunity for case studies (which you hardly have in this chapter so far, unfortunately), e.g., best practices, adaptive management, etc., specifically regarding the land challenges [Hans Poertner and WGII TSU, Germany]	Accepted. Cases are mentioned in the adaptive management section and case studies have been added to the chapter.
26112	60	18			Very general heading. Should refer explicitly to the land challenges [Hans Poertner and WGII TSU, Germany]	Accepted and changed to Decision-making for climate and land challenges
4806	60	21			Delete "that are" before "responsible for land use decisions" [Michelle North, South Africa]	Accepted

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3492	60	43			formal includes explicit rules and procedures, laws, power structures... formal decisions can be demanded, are legitimized etc. I am not sure if this this paragraph correctly grasps the issue of how to tackle formal/informal... Formal and informal decision-making, institutions, governance structures, rationalities are overlaying, overlapping, partially reinforcing each other, partially opposed.... What then is basic idea of this paragraph? Combine formal and informal processes? to advance co-benefit? [Cordula Ott, Switzerland]	Noted - we have removed this section but introduced the concept in the previous section and referred to other areas where this topic arises
25050	61	30	61	31	Besides population growth, population mix or composition (social, ethnic, economic) also influence effectiveness of informal institutions. [Kirti Kusum Joshi, Nepal]	accepted considered in SOD
21410	61	33	61	34	Better to shift "Social, political and demographic conditions are factors that influence institutions' effectiveness (Yami et al. 2009)" to line 30 or merge. [Jony Mainaly, Nepal]	noted
21438	61	36	61	36	The Dehesa/Monado is a cultural landscape that has demonstrated sustainability for centuries as an agrosilvopastocultural system Fra.Paleo, F. (2010) The dehesa/montado landscape. In: Bélair C, Ichikawa K, Wong BYL, Mulongoy KJ (eds) Sustainable use of biological diversity in socio-ecological production landscapes. Background to the 'Satoyama Initiative for the benefit of biodiversity and human well-being.' Secretariat of the Convention on Biological Diversity, pp 149–151. [Urbano Fra.Paleo, Spain]	accepted example added in SOD
11260	61	42	61	45	Equating informal institutions to 'developing countries' is quite problematic and fails to take cognisance of the vast body of knowledge in this field. The initial work of Ostrom that was influential in the development of the body of knowledge on 'commons' was not in a 'developing country'. You might also want to reconsider the notion that governance is either formal or informal since in practice, this categorisation is often quite muddy. [Debra Roberts, South Africa]	noted
4808	61	7			Delete "that are" before "important in land-climate systems" OR change it to "actors who are important..." [Michelle North, South Africa]	Accepted
4810	61	13			Delete "(ABMs)", the acronym is not used again [Michelle North, South Africa]	Deleted.
14712	61	20			Niches are new structures, protective spaces for "pathbreaking innovations", having three functions in the wider transition processes: "shielding, nurturing and empowering" (Smith and Raven, 2012). Ref.: Smith. A. and Raven, R. What is protective space? Reconsidering niches in transitions to sustainability. Research Policy 41 (2012) 1025–1036 [online]: https://grassrootsinnovations.files.wordpress.com/2012/08/smith-and-raven-2012-what-is-protective-space1.pdf [Rattan Lal, United States of America]	Noted but unclear how this article applies at this page and line number
3494	61	27			this paragraph expresses a static understanding of institutions linking formal and informal towards more coherent and suited governance systems needs interaction of all actors/levels/scales ... needs joint processes... [Cordula Ott, Switzerland]	Accepted considered in SOD
26114	61	27			This sections needs more explicit links of informal institutions in the context of climate change adaptation and mitigation [Hans Poertner and WGII TSU, Germany]	accepted considered in SOD
3496	61	32		34	in reality informal institutions can be power-driven, too, and not suited for SD... etc. a huge problem exists as formal and informal institutions are competing. In addition, under current trends, informal institutions that once may have worked make no more sense, break down...are dominated by formal governance institutions. [Cordula Ott, Switzerland]	noted

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4306	62	14	62	14	Grammatical error: ". furthermore..." [Daniel Pazmino, Ecuador]	noted
3104	62	21	62	21	As supporting material on decision making progress in related to the climate change issue and possible uncertainties, a SWOT analysis is required to be mentioned here, with consideration of people partnerships. [Mostafa Jafari, Iran]	Noted, we appreciate there are a wide range of potential tools available however in this section we focus on those emerging and most useful for decision-making under uncertainty
3774	62	26	62	26	sloppy referecning - which WG report for example? [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Accepted and complete reference added
4814	62	43	62	45	This sentence is very confusing the way it is written, please reword "a significant shift from accepted institutional decision making processes towards more socially disruptive – those suggesting the very nature of a system may change – which do not privilege equilibrium may be required" to facilitate comprehension. This also includes words that require hyphenation (e.g., decision-making). It may be better broken into two separate sentences, with the second explaining the concept of a socially-disruptive process. [Michelle North, South Africa]	Accepted and changed
4816	62	46	63	1	This sentence is badly worded, please rewrite [Michelle North, South Africa]	Accepted and changed
11262	62	23	64	12	The content is quite broad and there is insufficient linkage to the focus of the SR [Debra Roberts, South Africa]	Accepted and included more linkages to the rest of the report
11264	62	34	64	34	This figure should deal primarily with the focus of this SR [Debra Roberts, South Africa]	Noted
14714	62	6			The current global corporate economy subordinates environmental standards to what are presented as "requisites" for "free" global trade and proprietary "rights". [Rattan Lal, United States of America]	Accepted
3498	62	17		19	but much is available: for example see New Institutionalism or Constitutionality: for example: Tobias Haller, Greg Acciaioli & Stephan Rist (2016) Constitutionality: Conditions for Crafting Local Ownership of Institution-Building Processes, Society & Natural Resources, 29:1, 68-87, DOI: 10.1080/08941920.2015.1041661.....issue at hand is how to jointly dvelop new governance institutions tha include suited elemnst of formal and informal institutions... [Cordula Ott, Switzerland]	Noted
14716	62	19			There is a tendency for significant challenges (such as education for sustainability) to be understood and accommodated within the norms of the existing system, rather than change it according the challenge (Sterling, 2009). Ref.: Sterling, S. 'Mission impossible' - or 'never ending story'? CREE seminar University of Bath, 2009 [on line]: http://www.bath.ac.uk/cree/seminars/BathSterlingJuly09.ppt [Rattan Lal, United States of America]	Noted - we require peer-reviewed literature
4982	62	26			This sentence on "The AR5 Chapter on Decision-making" should reference that chapter correctly [Michelle North, South Africa]	Accepted and complete reference added
4812	62	42			Delete "In order" [Michelle North, South Africa]	Accepted
25052	63	1	63	2	Although reference to large infrastructure projects and urban expansion is made here with importance, the entire chapter is poor in addressing urban contexts. [Kirti Kusum Joshi, Nepal]	The report is primarily focused on land interactions and there is insufficient space to deal with urban issues in depth
4818	63	2	63	3	Modify to read: "...urban expansion, which may ultimately reduce the capacity of the landscaop/ecosystem..." [Michelle North, South Africa]	Accepted and changed
3776	63	9	63	9	I have resisted to express my aversion to acronyms - but DMUU is really an acronym too far! [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Accepted and changed
2618	63	9	63	9	What is DMUU? [William Lahoz, Norway]	Accepted and changed

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
4830	63	12	63	29	Please remove all the acronyms, they are unnecessary, and not used again. It is also not correct to start a sentence with an acronym, rather write out in full or find a shorter way of saying it [Michelle North, South Africa]	Accepted and changed
21412	63	22	63	22	Better to provide reference to "deep uncertainty" -- the concept was discussed in an earlier section. [Jony Mainaly, Nepal]	Accepted and changed
4820	63	4			Modify to read: "...important for identifying technology and policy instruments to ensure spatial..." [Michelle North, South Africa]	Accepted and changed
4822	63	9			Please do not use an acronym in headings, particularly since this acronym has not been introduced anywhere, and isn't a standard, common acronym. Rather write out in full "Economic approaches to decision-making under uncertainty", or abbreviate to just "Economic approaches under uncertainty" or similar [Michelle North, South Africa]	Accepted and changed
4824	63	10			Replace "under" with "in" [Michelle North, South Africa]	Accepted and changed
4826	63	10			Delete "under" before "approaches", it gets mentioned 3 words later [Michelle North, South Africa]	Noted
4828	63	11			Modify to read: "Traditional approaches for economic appraisal..." [Michelle North, South Africa]	Accepted and changed
518	63	23			Ferraro, F., Etzion, D. and Gehman, J., 2015. Tackling grand challenges pragmatically: Robust action revisited. Organization Studies, 36(3), pp.363-390. [Dror Etzion, Canada]	Noted, thank you, however we are looking for literature in the land context specifically
4984	63	42			This reference "(Watkiss et al.)," needs a year [Michelle North, South Africa]	Accepted
4834	63	43			"can improve how uncertainty is characterised..." [Michelle North, South Africa]	Accepted and changed
4836	63	45			Delete "150", the number of expert judgements is not relevant here [Michelle North, South Africa]	Accepted and changed
4838	64	3	64	4	Is there low agreement that this theory is of limited value (i.e., some/many people think it is of high value), or do you mean that there is low agreement that it is of value? Please reword this to correctly convey what is intended. Also, please delete "perhaps", please try to be specific [Michelle North, South Africa]	Noted - rewritten
25408	64	3	64	12	This paragraph is very confusing the way it is written. [Rebecca Teasley, United States of America]	Accepted and rewritten
4840	64	4	64	5	Modify to read: "alternatives that do not assume probabilistic information should be explored..." [Michelle North, South Africa]	Accepted and changed
4846	64	14	64	29	Consider which of the lists needs numbering, and remove the numbers from the other. The way it is now is confusing (are the lists contiguous?), and decreases the value of the numbered options/moments. If there are only two 'things' in the list, then rather just say "may also occur at the macro level when.... OR a shift in power...". This whole paragraph is in essence a list of different types of windows of opportunity, try to think of a different way of portraying this list (maybe bulleting the whole paragraph of examples, with each bullet a complete sentence?). Just try find something better than the way it is currently written [Michelle North, South Africa]	Accepted and changed
27474	64	30	64	33	This paragraph is not needed. [Doreen Stabinsky, United States of America]	Accepted - deleted
4854	64	31	64	32	Delete "the" before "people" and "climate change" [Michelle North, South Africa]	Noted, but this paragraph has been deleted
3778	64	37	64	38	This sentence doesn't make sense [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Accepted and rewritten
4858	64	42	64	44	I'm not sure whether this list of examples of agricultural best management practices is necessary here, it clutters the sentence and confuses the point (which is about the factors determining these practices, i.e.e, education, income etc, not the practices themselves) [Michelle North, South Africa]	Accepted and deleted

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4860	64	44	64	45	I don't think "positive correlation" is very convincing, if there is a proven positive causal association then say so, correlations can be completely non-causal [Michelle North, South Africa]	Noted and rewritten
4842	64	5			This terminology "maximin decision rules and minimax regret" needs to be included in the glossary, please, it is extremely domain-specific [Michelle North, South Africa]	Noted - the section has been rewritten
3500	64	13			There should be more than just the idea that crises always offer potential to learn. Although windows of opportunities may often occur when we are forced to react on crisis and disasters, there is a need for a more proactive search for windows of opportunities... Food crisis? social crisis? Could we say that under disruptive social processes, combining formal and informal institutions in joint processes is window of opportunity? [Cordula Ott, Switzerland]	Noted and added
3502	64	18		20	... this is key... but formulated a bit vague [Cordula Ott, Switzerland]	Accepted and changed
4844	64	18			This line should be numbered "or (3) novel and innovative recombining of sources of..." [Michelle North, South Africa]	Accepted and changed
4848	64	26			This should be "crises", (plural), not "crisis" [Michelle North, South Africa]	Accepted and changed
4850	64	26			Delete "that" from in front of "enhance society's capacity", so that it reads: "...when a series of punctuated crisis such as floods enhance society's capacity to adapt..." [Michelle North, South Africa]	Accepted and changed
4852	64	30			"in many cases," needs to be at the beginning of the sentence or at the end (after "are catastrophic"), not in the middle [Michelle North, South Africa]	Noted, but this paragraph has been deleted
3504	64	39		40	a language of the dominant paradigm: 'sustainable remediation practices as well as critical interventions that are reshaping norms and standards'. .....add: adoption versus adaptation of measures; joint implementation, experimentation,... integration of rural actors' agency in analysis, in approaches, in decision-making... [Cordula Ott, Switzerland]	Accepted and changed
4856	64	45			Rather say "farm size" instead of "acres" (which is very vague) [Michelle North, South Africa]	Accepted and changed
4862	65	2	65	3	Modify to read: "More research is needed on the sustained adoption of these factors over time..." [Michelle North, South Africa]	Accepted and changed
4864	65	5	65	9	Please remove the numbering, it is unnecessary here [Michelle North, South Africa]	Accepted and changed
11266	65	11	65	11	Uncertainty language should be in italics [Debra Roberts, South Africa]	Accepted and changed
21440	65	19	65	23	See comment 19 (lines 29-31) [Urbano Fra.Paleo, Spain]	Noted
4872	65	26	65	27	Change to read: "...as the collective and collaborative dimensions of climate change adaptation that that depend on multi-level institutional..." (the way it is currently uses 'innovation' to define 'innovation') [Michelle North, South Africa]	Accepted and changed
11268	65	33	65	36	In relation to agriculture, there are several innovative practices (e.g. using black soldier flies to recycle wastes) to address land degradation as well as reduction of CO2 emissions from agriculture activities that should not be discounted. [Debra Roberts, South Africa]	Noted - but we think this type of detail would be more appropriate in Ch6?
4876	65	44	65	45	End one sentence after "fundamental objectives" and list the requirements of success as a second sentence [Michelle North, South Africa]	Accepted and changed
4986	65	10			Italicize "medium agreement and medium evidence" [Michelle North, South Africa]	Accepted and changed
4866	65	12			Not "differing", rather use "individual stakeholders make different decisions..." [Michelle North, South Africa]	Accepted and changed

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
4868	65	13			What does "experiencing bounded rationality" mean? Please rephrase this entire sentence (it is too long and confusing), and try to use normal English words [Michelle North, South Africa]	Noted and rewritten
3506	65	18		23	participation is too vague.. integration in decision-making is necessary, meaningful participation [Cordula Ott, Switzerland]	Noted and rewritten
4870	65	20			Rather "(Section 7.6.4)" and "(Section 7.6.5)" [Michelle North, South Africa]	Accepted and changed
25054	65	36			"Adaptation itself has a close relation to innovation in certain contexts" -- what are these contexts? [Kirti Kusum Joshi, Nepal]	Noted - but sentence has been deleted
4874	65	45			Delete "fundamental" in "fundamental objectives", it have been repeated twice and isn't necessary [Michelle North, South Africa]	Accepted and changed
24546	66	32	65	37	In the IPBES process, countries formally adopted Indigenous and Local Knowledge (ILK). The authors of the IPBES LDRA (https://www.ipbes.net/assessment-reports/ldr) did an outstanding job of integrating ILK throughout the assessment. This section should be updated accordingly. [Barron Joseph Orr, Germany]	Noted. Text will change according to coordination with other chapters and IPCC
6702	66	32	65	37	It is not only indigenous but Indigenous and Local Knowledge (ILK), as it was presented in the IPBES LDRA. I suggest this section be updated with the findings and examples of the IPBES report. [Graciela Metternicht, Australia]	Noted. Text will change according to coordination with other chapters and IPCC
14718	66	32	65	37	It is not only indigenous but Indigenous and Local Knowledge (ILK), as it was presented in the IPBES LDRA. I suggest this section be updated with the findings and examples of the IPBES report. [Rattan Lal, United States of America]	Noted. Text will change according to coordination with other chapters and IPCC
11272	66	12	66	12	This seems to suggestion that indigenous knowledge is unscientific. You also need to be consistent in the use of the correct concept 'indigenous knowledge'. [Debra Roberts, South Africa]	Comment doesn't correspond to page number and line therefore it is unclear. Think this comment refers to section 7.5.5.1?
1458	66	31	66	31	Given the discussion of gender in the dedicated box, a section on gender-equitable participation would be highly beneficial. Women and men have different information, experiences in using natural resources, and different perceptions of risk, vulnerability, and innovative solutions. This would also tee up a discussion (where there is currently a placeholder) of barriers to gender-equitable participation. [Tonya Rawe, United States of America]	Noted. There will be a special BOX about the topic
11270	66	37	66	38	Indigenous knowledge knowledge is not the same as traditional ecological knowledge. At best, one could argue that TEK is a sub-subset of indigenous knowledge (whether this argument can be sustained is a different question) but equating one to the other is misleading. [Debra Roberts, South Africa]	Noted. It will be edited accordingly
5008	66	33	67	18	This section might be strengthened with a discussion across the various chapters in this report on indigenous and local knowledge, particularly to harmonise definitions and the usage of terms. For example, while the importance of indigenous and local knowledge is a thread that runs throughout the report, the term 'traditional ecological knowledge' is not introduced in the other chapters. [Renee van Diemen, United Kingdom (of Great Britain and Northern Ireland)]	Noted. Text will change according to coordination with other chapters and IPCC
4878	66	14			I think it may be beneficial to add "complex, fuzzy and wicked challenges" to the glossary [Michelle North, South Africa]	Rejected as outside the scope of this chapter
26116	66	32			Suggest to stick to Indigenous and Local Knowledge (ILK) concept/terminology, as in the according cross-chapter boxes in SRCL and SROCC [Hans Poertner and WGII TSU, Germany]	Noted. Text will change according to coordination with other chapters and IPCC
6366	66	48			change: strand in analysis to strand in an analysis [Abdel-Hai Benali, Algeria]	Rejected
1456	67	12	67	13	Can more be said about how power dynamics affect integration of TEK? [Tonya Rawe, United States of America]	Noted. It will be included

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
21414	67	20	67	20	Can public perception on climate change be counted as citizen science? If yes, Nepal's experience could be cited (http://cbs.gov.np/image/data/2017/National%20Climate%20Change%20Impact%20Survey%202016%20Report_final.pdf). [Jonny Mainaly, Nepal]	Rejected. It does not count as citizen science
4886	67	32	67	34	This sentence seems to be bringing in an alternative argument, against citizen science. If so it would be better if the sentence were started "However, Ballard et al (2017) found limited evidence of...." [Michelle North, South Africa]	Noted. It will be edited accordingly
2620	67	44	67	44	Perhaps authors should mention that uncertainty in citizen science information makes it difficult to combine with other tools (models, observational platforms such as satellites and in situ). [William Lahoz, Norway]	Noted, will search for reference about this claim
3880	67	46	68	33	The section could mention that an important aspect of participation in policy making is a change or adjustments in the mental models stakeholders use to understand the environment. Different stakeholder groups use different, sometimes contradictory, mental models related to e.g. what promising adaptation to climate change is. Some references: Denzau AT, North DC (1994) Shared mental models: ideologies and institutions. <i>Kyklos</i> 47(1):3–31; Otto-Banaszak et al. (2011) Different perceptions of adaptation to climate change: a mental model approach applied to the evidence from expert interviews, <i>Regional Environmental Change</i> , DOI 10.1007/s10113-010-0144-2. [Ilona M. Otto, Germany]	Noted, we considered using these references, however, these references are outdated but different references have been used.
5534	67	11			Apraku et al. w/without year [claudio szlafsztein, Brazil]	Currently the reference is forthcoming: it will be dropped if not accepted
4880	67	18			Delete "while they found an absence of comparable initiatives in South Africa.", it is not relevant to the first part of the sentence and doesn't add anything to this section. If the authors feel strongly that it should be included, then it needs to be a separate sentence with some introduction linking this to the previous sentence and introducing why it is important (what about the rest of Africa? The sentence starts by saying "examples...in Kenya", so why is South Africa the only country listed as an exception? Please consider carefully what the point is, here). [Michelle North, South Africa]	Noted. Will clarify, but the study is a comparative study of Kenya and South Africa
27476	67	21			New in what sense? It's been around for a very long time. [Doreen Stabinsky, United States of America]	Noted, will reword
4882	67	22			Is citizen science truly only relevant to science "involving the environment"? If not, please delete that unnecessary restriction [Michelle North, South Africa]	Noted, will reword
4884	67	24			Does "cell based apps" refer to cellphone-based apps? Please write out clearly (cell can be the base components of organisms, or refer to 'cell-groups' of people, or battery cells... it too ambiguous) [Michelle North, South Africa]	Noted, will reword
4888	67	38			What is meant by "transparency effective solution of conflict"? Please reword [Michelle North, South Africa]	Noted. It will be edited accordingly
4890	67	40			Modify to read: "lack of a universal framework for implementation in communities..." [Michelle North, South Africa]	Noted. It will be edited accordingly
6368	67	41			change: and differing methods to and different methods [Abdel-Hai Benali, Algeria]	Noted. It will be edited accordingly

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
14720	67	44			Innovation processes entails knowledge asymmetries and struggles between 'instrumental' and 'transformative' rationalities; participation and empowerment are constrained by relational, structural and cultural barriers. collaborative innovation needs to consider how the power dynamics of a given context can enable or constrain the empowerment of people as 'users' and 'co-creators' of knowledge (Edwards-Schachter, M. and Tams, S.). Ref.: Edwards-Schachter, M. & Tams, S., How Empowering is Social Innovation? Identifying Barriers to Participation in Community-driven Innovation. Social Frontiers [on line]: http://www.transitsocialinnovation.eu/content/original/Book%20covers/Local%20PDFs/Paper%20Edwards%20Schacher%20and%20Tams%20How-empowering-is-social-innovation-Identifying-barriers-to-participation-in-community-driven-innovation%202013.pdf [Rattan Lal, United States of America]	Publication suggested is not a journal article. It is a conferece paper from 2013. Not suitable for this section, however other reference has been added (Fung 2015).
6370	67	46			change: There is to There are [Abdel-Hai Benali, Algeria]	Noted. It will be edited accordingly
4894	68	16	68	17	"consideration of scenario analyses" could simply be written as "such as multi-stakeholder forums, scenario analyses, and use of..." [Michelle North, South Africa]	Noted. It will be edited accordingly
4896	68	21	68	22	Modify to read: "...considering the level of uncertainty in science, and in the outcomes of norms, values, and political decision making, can influence..." [Michelle North, South Africa]	Noted. It will be edited accordingly
4900	68	27	68	29	Modify "Consideration of the method", "...in order that reflexive citizen engagement can occur", and "through connected trans-local knowledge development whereby technoscientific closure is prevented and reflexive opening endorsed" to "It is important to consider the method of engaging citizens with climate science, to promote (or encourage) the development of connected trans-local knowledge, prevent techno-scientific closure and encourage reflexive opening (ref, ref)" [Michelle North, South Africa]	Noted. It will be edited accordingly
4904	68	39	68	41	This sentence could do with some revision for grammar [Michelle North, South Africa]	Noted. It will be edited accordingly
1460	68	42	68	43	It's absolutely accurate to say that participation cannot be decreed or imposed; however this must not be articulated as a way out of enabling or facilitating equitable participation, particularly when power relations, social norms, and/or marginalization can act as a strong deterrent or barrier to that equitable participation. This would apply in any/all countries. A caveat would be useful here to make the clear. [Tonya Rawe, United States of America]	Note. Will re-word to capture the comment
4906	68	45	69	1	"Inclusion in citizen participation in lang change simulation..." - please reword, this doesn't make sense [Michelle North, South Africa]	Noted. It will be edited accordingly
4892	68	11			When you say "and a limited selection include", do you mean that only some methods include the factors you list, or, do you mean, ", including:..." (are you simply providing examples of several methods of enegament)? Please reword for clarity [Michelle North, South Africa]	Noted. It will be edited accordingly
4898	68	22			What is meant by the "outcomes of norms, values, and political decision making"? Are the outcomes uncertain, or the norms and values themselves? Please check to ensure the sentence correctly conveys it's intended meanign [Michelle North, South Africa]	Noted. It will be edited accordingly
4902	68	29			What are "reflexive citizen engagement", "techno-scientific closure" and "reflexive opening"? I think these should be explained or reworded [Michelle North, South Africa]	Noted. We will delete the sentence

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
14722	68	41			Policy makers and researchers have adopted structuralist approaches, with their stress on institutions and institution building, failing to account for the design, formation and maintenance of institutions, encompassing the role of leaders, elites and coalitions and the general patterns of institutional failure or corruption (Leftwich, 2010). Ref.: Leftwich, A. Beyond Institutions: Rethinking the Role of Leaders, Elites and Coalitions in the Institutional Formation of Developmental States and Strategies, Journal Forum for Development Studies, 37, 2010 - Issue 1: 93-111. [Rattan Lal, United States of America]	Noted. However, the pitfalls in the design of institutions is not in the scope of the sections. The inclusion of this reference might distract the reader from the central point of the section.
4910	69	4	69	5	What is meant by "co-designing decision making participatory foresight"? Please rephrase [Michelle North, South Africa]	Noted. It will be edited accordingly
2622	69	22	69	22	If using UK English spelling, I think it should be "programmes". Same elsewhere in the text, e.g., P. 7-73, L. 5. [William Lahoz, Norway]	Noted. It will be edited accordingly
4912	69	28	69	38	This oaragraph is reviewing the literature rather than assessing it, please consider rewriting or removing it completely. [Michelle North, South Africa]	Noted. It has been edited.
4916	69	41	70	26	This section is also reviewing the literature rather than providing an assessment, please revise [Michelle North, South Africa]	Noted. Will re-word and assess
4908	69	4			Change "to enable the involvement of" to simply "to involve" [Michelle North, South Africa]	Noted. It will be edited accordingly
6372	69	26			change: finds limited to finds a limited [Abdel-Hai Benali, Algeria]	Noted. It will be edited accordingly
4914	69	39			"that it is critically important to include" or "the critical importance of including" [Michelle North, South Africa]	Noted. It will be edited accordingly
27478	70	3	70	9	Where exactly on the planet would online mobilization of citizens work? Where might there be challenges? [Doreen Stabinsky, United States of America]	Noted. Section has been erased
4918	70	28	70	30	This sentence needs to be completely revised, it contains several grammatical errors and is confusing [Michelle North, South Africa]	Noted. It will be edited accordingly
1462	70	27	71	15	It's worth pointing out that elite capture can happen inadvertently -- in the name of "participation" that is not intentionally equitable. Simply aiming to engage "the community" without considering power relations within it can result in elite capture at a very localized level. Intentional recognition of the role of equitable participatory approaches in countering elite capture (as a separate challenge from corruption) helps tie this section to previous discussions on participation. [Tonya Rawe, United States of America]	Noted. Added a reference about the comment Rigon 2014.
11274	70	28	71	15	Corruption is a contentious issues that must be carefully considered. The attention given to this is quite weak and citing only two examples from the global south is problematic and fails to capture the nuances and of corruption in the context of climate change and land. [Debra Roberts, South Africa]	Noted. Will explore adding more examples
4920	70	28	71	15	This section is a review of the literature (in particular, a review of REDD+ literature) more than an assessment, please revise [Michelle North, South Africa]	Noted. Will explore adding more examples
6374	70	7			change: which have to which has [Abdel-Hai Benali, Algeria]	Noted. It will be edited accordingly
11678	70	39			Re setting of baselines -- does this refer to measuring current forest stocks? Or does this refer to a time baseline? [Debra Roberts, South Africa]	Noted. Will clarify. It is about forest stocks
6376	70	43			change: do examine to to examine [Abdel-Hai Benali, Algeria]	Noted. It will be edited accordingly
4924	71	26	71	28	This end of the sentence is overly long and complex "and including those excluded by the discourses of food security whose narrow focus is on the two ends of the food system (production by farmers and consumption)". Consider rewording or separating it into a sentence of its own (or omitting it entirely) [Michelle North, South Africa]	Noted will re word

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
4926	71	28	71	30	This sentence is in the passive voice, consider rewriting to active voice (thus simplifying it) - in fact, this sentence is typical of a review (not assessment), and may be omitted entirely with the sentence following it being revised and cited. [Michelle North, South Africa]	Noted. It will be edited accordingly
11276	71	2	77	35	A point that is often missed is that focus on measurable indicators drives compliance and therefore fails to capture the qualitative dimensions of such indicators. [Debra Roberts, South Africa]	Noted. Will try include a reference
17674	71	17			text is missing [Paul Hudson, Germany]	Noted. It will be edited accordingly
520	71	18			The "information deficit model", which argues that learning is effective, has been attacked, particularly by Dan Kahan at Yale. See for example Kahan, Dan M., et al. "The polarizing impact of science literacy and numeracy on perceived climate change risks." Nature climate change 2.10 (2012): 732. [Dror Etzion, Canada]	Noted. Will try to find an updated reference
14724	71	19			Along more than half a century, several studies about social learning have stressed the conditions to achieve changes in attitudes and behaviours, namely with the contributions of authors like Lewin, K., 1951 (field theory); Rogers, 1969 -(diffusion of innovations); Rockefeller Foundation, 1974 (social change); Bandura, 1977 (social learning theory); Abranson et al., 1978 (attributive causality); Ajsen et Fishbein, 1980 (intentional action); Prochaska J,O, e Di Clemente C,C., 1984 (contemplative action); Rosenstock I M et al., 1988 (health belief model.); Green and Marschal., 1992 (precede-proceed model); Pilon, A.F., 2018 (ecosystem approach). Ref.: Abramson L.Y. et al. Learned helplessness in humans: critique and reformulation. Abnormal Psychology 1978; (87):49-74. Ref.: Ajsen I and Fishbein M. Understanding attitudes and predicting behaviour. Englewood Cliffs. N.J: Prentice Hall; 1980 Ref.: Bandura A. Social learning theory. Englewood Cliffs. N.J: Prentice Hall; 1977. Ref.: Green L.W.and Marschal W.K. Health Promotion Planning: An Educational and Environmental Approach. London: Mayfield Publ., 1992. Ref.: Lewin K. Field theory in social science. New York: Harper and Row; 1951. Ref.: Pilon, A. F., Education Towards a Responsible Society: An Ecosystemic Approach for Advocacy, Public Policies, Research and Teaching Programmes, 2nd HEIRRI Conference, Vienna, 2018 [on line]: https://www.researchgate.net/publication/324840371_Education_Towards_a_Responsible_Society_An_Ecosystemic_Approach_for_Advocacy_Public_Policies_Research_and_Teaching_Programmes Ref.: Prochaska J.O. e Di Clemente C.C.. The transtheoretical approach: crossing traditional foundations of change. Homewood, Il., Dones Jorner/Irwin; 1984. Ref.: Rosenstock I M et al. Social learning theory and the health belief model. Health Education Quartely 1988; 15 (2):175-183. Ref.: Rockefeller Foundation, Communication and social change network. Exploring the development of indicators derived from a social change and social movement perspective The Communication Initiative Forum. 1974 [online]: http://www.comminit.com/socialchange/scfulleval/sld-1974.html Ref.: Rogers E M. Difusion of Innovations. New York: The Free Press; 1969. Ref.: Rosenstock I M et al. Social learning theory and the health belief model. Health Education Quartely 1988; 15 (2):175-183. [Rattan Lal, United States of America]	Noted. It will be edited accordingly

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3508	71	21		24	also science, and governments... Generally, the basic idea in this paragraph and in paragraphs above and below should be how the science-society interface can best be organized in order to create new solutions and pathways to SD... here the Trans-disciplinary concepts and practices (within sustainability science approaches) provide a wealth of knowledge and tools not considered in the document... [Cordula Ott, Switzerland]	Noted
6378	71	21			change: long term to long-term [Abdel-Hai Benali, Algeria]	Noted. It will be edited accordingly
4922	71	25			"important for engaging with uncertainty", not in [Michelle North, South Africa]	Noted. It will be edited accordingly
6380	71	32			change: to social difference to to the social difference [Abdel-Hai Benali, Algeria]	Noted. It will be edited accordingly
6382	71	34			change: There is to There are [Abdel-Hai Benali, Algeria]	Noted. It will be edited accordingly
6384	71	44			change: open minded to open-minded [Abdel-Hai Benali, Algeria]	Noted. It will be edited accordingly
21444	72	2	72	2	Measuring performance is not necessarily the main purpose of evaluation or assessment, it is also to promote social learning, empowerment and ownership as well as to identify gaps, measure progress and identify opportunities for policy design, Quantitative indicators are not necessarily the best option when various forms of knowledge are integrated, as data comes from government, but other qualitative information may come from other societal actors. See http://www.scopus.com/inward/record.url?eid=2-s2.0-84943338994&partnerID=MN8TOARS [Urbano Fra.Paleo, Spain]	Accepted and Revised
3780	72	8	72	8	intended no more [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Accepted and changed
6738	72	13	72	15	the three indicators mentioned are also cited and explained at length in Orr et al 2017. [Graciela Metternicht, Australia]	Noted
14726	72	13	72	15	the three indicators mentioned are also cited and explained at length in Orr et al 2017. [Rattan Lal, United States of America]	Noted
20166	72	40	72	41	Merge with the following paragraph [Sabir Erşahin, Turkey]	Accepted and changed
11278	72	40	74	5	This is a good overview but the linkage to this report is not evident. [Debra Roberts, South Africa]	Noted- section is being revised
6386	72	7			change: made great focus to made a great focus [Abdel-Hai Benali, Algeria]	Noted and rephrased
6388	72	12			change: land based to land-based [Abdel-Hai Benali, Algeria]	Accepted and changed
6390	72	25			change: short term to short-term [Abdel-Hai Benali, Algeria]	Accepted and changed
6392	72	26			change: use of indicators to the use of indicators [Abdel-Hai Benali, Algeria]	Accepted and changed
6394	72	28			change: need participation of relevant stake-holders to need the participation of relevant stakeholders [Abdel-Hai Benali, Algeria]	Accepted and changed
26118	72	39			This section is too conceptual on maladaptation. Please focus on evidence specifically relating to the land challenges and the state of knowledge there. [Hans Poertner and WGII TSU, Germany]	Accepted and section has been revised
27480	73	5	73	8	The reference cited here talks about something JUST in Canada. With one article. How does this warrant in a GLOBAL assessment a claim of "high agreement and medium evidence?" [Doreen Stabinsky, United States of America]	Noted - possibly find more references or include uncertainty statements
6396	73	2			change: There is to There are [Abdel-Hai Benali, Algeria]	Rejected
6398	73	30			change: a spill over to a spillover [Abdel-Hai Benali, Algeria]	Accepted and changed

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5004	74	7	74	32	Section 7.5.9 might be strengthened with an explanation of how it differs from the co-benefits and trade-offs discussed in Chapter 6, in particular Section 6.4.2 and 6.5.2. This also applies to Section 6.9, which also includes barriers to implementation. [Renee van Diemen, United Kingdom (of Great Britain and Northern Ireland)]	Accepted
27482	74	14	74	16	This is too broad of a claim. Adaptation is always context specific. Whether adaptation and mitigation can provide synergies and co-benefits always should be assessed in context. [Doreen Stabinsky, United States of America]	Noted, but this paragraph has been deleted
27484	74	18	74	21	A more consequential trade-off is the mitigation use of land for bioenergy production that undermines local food security. Search for other better examples [Doreen Stabinsky, United States of America]	Noted, but this paragraph has been deleted
4928	74	19	74	20	"reduced micronutrients under enhanced CO2" - what is being referred to, here, soil or atmospheric CO2? Please specify [Michelle North, South Africa]	Noted, but this paragraph has been deleted
11280	74	28	74	28	Delete 'could result in' [Debra Roberts, South Africa]	Noted, but this paragraph has been deleted
4932	74	30	74	32	This sentence doesn't belong in this paragraph, it doesn't lead logically form anything preceeding it [Michelle North, South Africa]	Noted, but this paragraph has been deleted
4934	74	37	74	41	The examples given in the first sentence are somewhat duplicated by the second (with the addition of references); consider ending the first sentence after "facing tradeoffs and synergies." and continue on with the next sentence providing examples [Michelle North, South Africa]	Accepted
4946	74		77	39	How is the section "7.5.9.4 Trade-offs and synergies arising from land-based adaptation measures" (including forest and crop land) different from the section "7.5.9.2 Trade-offs and synergies in the agricultural sector"? Surely the latter should be a sub-heading under 7.5.9.4, with "Adaptive forest management", "Adaptive cropland management" and "Climate smart / green cities"? The breakdown of headings doesn't make sense, starting with land-based mitigation, then both mitigation & adaptation of agricultural land, then similar for freshwater, and then land-based adaptation alone. Either break it down into a mitigation section and then a separate adaptation section with all the relevant subheadings, or break it down into land - forestry, bioenergy, agriculture, cropland, cities etc, and then similar with water. [Michelle North, South Africa]	Noted - this section is being restructured
9452	74	6	78	11	Please check for consistency/overlap between Section 7.5.9 in Ch 7 and Section 6.4 in Ch 6 [Minal Pathak, India]	Noted - The section has been revised considerably
6400	74	17			change: in addition to , in addition, [Abdel-Hai Benali, Algeria]	Noted, but this paragraph has been deleted
4930	74	28			"could result in could lead to" - please delete one of these two linking statements [Michelle North, South Africa]	Noted, but this paragraph has been deleted
26120	74	33			This section overlaps very much with other chapters in SRCL. Suggest to stick to the governance and decision-making dimension here. [Hans Poertner and WGII TSU, Germany]	Accepted, the section has been revised considerably
27494	75	5	75	21	Neufeldt, H., Jahn, M., Campbell, B. M., Beddington, J. R., DeClerck, F., De Pinto, A., ... & LeZaks, D. (2013). Beyond climate-smart agriculture: toward safe operating spaces for global food systems. Agriculture & Food Security, 2(1), 12. [Doreen Stabinsky, United States of America]	Noted - but this section has been removed as the material is covered in Ch6
16700	75	7	75	7	The following paper also shows the importance of taking into account the benefits of adaptation, mitigation, and biodiversity in designing the forest-related policies. Morita, K. and K. Matsumoto. 2018. Synergies among climate change and biodiversity conservation measures and policies in the forest sector: A case study of Southeast Asian countries. Forest Policy and Economics 87: 59-69. [Kanako Morita, Japan]	Noted - thank you

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9556	75	8	75	10	Misrepresentation of REDD+ as a "mechanism", which has very specific meaning under UNFCCC, and is wrong in the case of REDD+. [Dirk Nemitz, Germany]	accepted, this has been removed
2624	75	9	75	9	There is use of the REDD acronym earlier in this chapter. [William Lahoz, Norway]	Accepted
4936	75	16	75	19	Please write out BECCS and CCS in full [Michelle North, South Africa]	Accepted
1716	75	16	75	41	As pointed out below, the carbon neutrality of bioenergy is heavily contested, and the assumption is often based on flawed counterfactual scenarios and a "Harry Potter"-like assumption that removing biomass will automatically lead to a similar amount of new biomass. Per definition, natural ecosystems should be taken as a baseline for estimating the impacts of any alternative land use scenario as the overwhelming majority of land on the planet will be able to regenerate over time to its natural state in a set aside scenario. [Simone Lovera-Bilderbeek, Paraguay]	noted, this sentence has been removed. Uncertainties around the carbon neutrality are discussed in chapter 2 and 6 already
27486	75	17	75	19	There is a huge literature to counter claims that bioenergy can be carbon-neutral in the real world (i.e., the assumption of steady state conditions is not real-world possible). This literature should be assessed and cited. [Doreen Stabinsky, United States of America]	noted, this sentence has been removed. Uncertainties around the carbon neutrality are discussed in chapter 2 and 6 already
26756	75	17	75	26	Please distinguish between 1st generation crop based biomasses and 2nd generation waste based. Are conclusions valid for waste based biomasses? [Knud Christensen, Denmark]	noted but this is discussed in other chapters and in a new cross-chapter box on bioenergy
27488	75	19	75	41	Do not leap to the conclusion that because a certain set of IAMs conclude that BECCS is necessary that this represents some sort of scientific consensus. Most IAMs are designed with two options for negative emissions -- BECCS and afforestation. Significant assumptions need to be made about the availability of land for BECCS or large-scale afforestation. Alter the framing to make it sound less "unavoidable" as there are a number of other models that do not include BECCS. [Doreen Stabinsky, United States of America]	noted, this sentence has been removed. Chapter 2 discusses these caveats in details
27490	75	32	75	35	Certainly there are more criteria for determining whether or not bioenergy can be biodiversity friendly than just the provision of a local biogeophysical cooling effect. [Doreen Stabinsky, United States of America]	accepted, specific co-benefits and tradeoffs related to bioenergy are fully discussed in ch6
27492	75	37	75	40	It is not at all clear how any of these strategies contribute to food security. Consider these strategies in the context of a biofuel-induced food price crisis. How do they help people cope with an increase in food prices? [Doreen Stabinsky, United States of America]	Increased food prices are particularly problematic for urban consumers whereas rural consumers may actually benefit from higher prices if they sell into urban markets; this comment will be referred to food security chapter.
3782	75	43	75	44	This is covered by a chapter 6 bullet point - aren't we focusing on SD interactions here? [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Noted - this section has been revised as much of the material is covered in Ch6
6402	75	13			change: of the California to of California [Abdel-Hai Benali, Algeria]	Disagree, it refers to the California forest offset programme
4938	75	28			"land area affected by bioenergy production" [Michelle North, South Africa]	noted, this has been removed
6404	75	29			change: about range of estimates for land to about the range of estimates for the land [Abdel-Hai Benali, Algeria]	noted, this has been removed
11682	75	33			This is also extremely location specific – for example, Eucalyptus are an environmental, ecological and biodiversity disaster in South Africa, where they are not indigenous. Eucalyptus plantations are green deserts. There seems to be a gap in discourse on commercial forestry using indigenous species, which would have many co-benefits. But one does not hear about it. Is this a topic in other parts of the world? See http://www.fao.org/docrep/008/j6854e/j6854E04.htm and https://www.tandfonline.com/doi/pdf/10.2989/20702620.2016.1254913 [Debra Roberts, South Africa]	accepted, has been removed

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6406	75	41			change: including shift to including a shift [Abdel-Hai Benali, Algeria]	accepted
8010	76	5	76	14	The concept of "Climate Smart Agriculture" (CSA) has been presented well in this chapter, especially in regards to the three pillars of CSA. However, in terms of the limitations of the concept, it is important to mention that there is a clear lack of using "comprehensive regulatory framework" to effectively incentivize the agriculture sector (to convert from usual practices to be climate smart). [Alaa Al-Hasani, Iraq]	Noted
27496	76	5	76	21	Climate-smart agriculture is not one thing. It's a complex of practices which vary from cropping system to cropping system and indeed includes many of the other elements in the list: cropland management, nutrient management, agroforestry. As an ambiguous label it should be avoided for analytical clarity in the assessment. See for example Neufeldt et al., from a number of scientists who helped create and popularize the term: "Agriculture is considered to be "climate-smart" when it contributes to increasing food security, adaptation and mitigation in a sustainable way. This new concept now dominates current discussions in agricultural development because of its capacity to unite the agendas of the agriculture, development and climate change communities under one brand. In this opinion piece authored by scientists from a variety of international agricultural and climate research communities, we argue that the concept needs to be evaluated critically because the relationship between the three dimensions is poorly understood, such that practically any improved agricultural practice can be considered climate-smart." [Doreen Stabinsky, United States of America]	Noted
1464	76	15	76	15	The inclusion of only bio-physically oriented practices as examples of CSA is problematic. CSA -- particularly in light of concerns flagged in the preceding paragraph -- must also address the socio-economic factors that drive vulnerability, lack of adaptive capacity, low productivity, and lack of access to resources (for food production and to enable adoption of more sustainable techniques). For instance, equitable and participatory decision-making processes for managing climate risk (like participatory scenario planning) also contribute to the aims of climate-smart agriculture. Some have argued that addressing inequality is in fact a prerequisite to calling any approach climate-smart. [Tonya Rawe, United States of America]	Noted - but this section has been removed as the material is covered in Ch6
3784	76	17	76	18	There are several agriculture management approaches mentioned in the chapter. Conservation agri, climate smart, precision farming and now agroecology. A small box to explain? [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Noted - but this section has been removed as the material is covered in Ch6
27498	76	19	76	20	It's not clear what the point of the sentence about agroecology is. Is that point that CSA includes practices that undermine the health of the ecosystem? [Doreen Stabinsky, United States of America]	Noted - clarified
21416	76	23	76	26	The lines are repeated in Page 77 (Line 33-37). [Jonny Mainaly, Nepal]	Noted - but this section has been removed as the material is covered in Ch6
25056	76	23	76	26	Repeated in Page 77 (Lines 33-37). [Kirti Kusum Joshi, Nepal]	Noted - later section has been removed
27500	76	27	77	21	This section is not relevant to the report. Remove. [Doreen Stabinsky, United States of America]	Noted but we do consider river systems part of this report
6408	76	1			change: farming systems is to farming systems are [Abdel-Hai Benali, Algeria]	Disagree, the "potential is discussed" is correct
6410	76	23			change: Since human to Since the human [Abdel-Hai Benali, Algeria]	Noted - but this section has been removed as the material is covered in Ch6

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4940	76	24			What about including "reduced consumption of non-nutritional products" (worded however works best) to include the agricultural land wasted producing junk crops like tobacco or sugar cane? [Michelle North, South Africa]	Noted - but this section has been removed as the material is covered in Ch6
6412	76	28			change: hydro-power to hydropower [Abdel-Hai Benali, Algeria]	Accepted
11684	76				Table: Cross-reference information in other chapters. [Debra Roberts, South Africa]	Noted - this section has been removed as the material is covered in Ch6
25410	77	1	77	7	What about the Mekong - these rapid construction and large numbers of dams is significant in this regard and should be included [Rebecca Teasley, United States of America]	Noted - but this section has been removed as the material is covered in Ch6
16050	77	17	77	17	...to predict cumulative impacts of dams and and asses trade-offs.....could be "to predict cumulative impacts of dams and access trade-offs" [Ayotomiwa Alabi, Nigeria]	Noted
4948	77	32	77	37	As noted in a previous comment, these lines cover exactly what was covered on page 76, lines 23-26 [Michelle North, South Africa]	Noted - but this section has been removed as the material is covered in Ch9
21418	77	33	77	37	The lines are repeated in Page 76 (Line 23-26). [Jony Mainaly, Nepal]	Noted - but this section has been removed as the material is covered in Ch10
25058	77	33	77	37	Repeated in Page 76 (Lines 23-26). [Kirti Kusum Joshi, Nepal]	Noted - but this section has been removed as the material is covered in Ch11
6414	77	2			change: water related to water-related [Abdel-Hai Benali, Algeria]	Accepted
11686	77	8			Please iterate the important point made before in this report that the danger in freshwater is much greater than oceans, as fish cannot migrate from one river or lake to another as conditions become too extreme. [Debra Roberts, South Africa]	Noted - but this section has been removed as the material is covered in Ch13
6416	77	9			change: (Griggs et al. 2013a) , however while to (Griggs et al. 2013a), however, while [Abdel-Hai Benali, Algeria]	Noted - but this section has been removed as the material is covered in Ch14
6418	77	12			change: Furthermore hydro-power to Furthermore, hydro-power [Abdel-Hai Benali, Algeria]	Accepted
6420	77	17			change: predict cumulative impacts of dams and and to predict the cumulative impacts of dams and [Abdel-Hai Benali, Algeria]	Accepted
4942	77	17			"assess", not "asses" [Michelle North, South Africa]	Accepted
6422	77	20			change: and maximising synergies to and be maximising synergies [Abdel-Hai Benali, Algeria]	Noted - have restructured sentence slightly
4944	77	24			Delete "both" before promote [Michelle North, South Africa]	Noted - but this section has been removed as the material is covered in Ch6
6424	77	26			change: There has been to There have been [Abdel-Hai Benali, Algeria]	Noted - but this section has been removed as the material is covered in Ch7
11688	77	30			Please emphasise, benefits for biodiversity only apply if species are indigenous. [Debra Roberts, South Africa]	Noted - but this section has been removed as the material is covered in Ch8
6426	77	34			change: Since human to Since the human [Abdel-Hai Benali, Algeria]	Noted - but this section has been removed as the material is covered in Ch12
3786	78	13	78	13	I might have been tempted to put governance in front of policy measures in the overall chapter structure, [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Rejected. The chapter builds from micro to macro issues
21446	78	21	78	23	this view opposes the views in former sections that had a more managerial perspective [Urbano Fra.Paleo, Spain]	Noted and revised
9472	78	13	82	19	Section 7.6 Governing the Land-climate interface needs to include more examples/literature on land-climate. Presently, it is a little generic assessment (esp 7.6.3). Box 7.6.4 will help fix this. But also suggest to include examples of land-climate governance approaches, examples,etc. if literature is available. [Minal Pathak, India]	Accepted and revised

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6740	78	13	82	21	The whole section of governance needs to make more emphasis on policy coherence (from global, to regional, to national and sub-national), as essential elements to ensure co-benefits of many land-based interventions. See research of Bizikova, L., Metternicht, G., & Yarde, T. (2015). Advancing environmental mainstreaming in the Caribbean Region: The role of regional institutions for overcoming barriers and capacity gaps. Sustainability, 7(10), 13836-13855. Bizikova, L., Metternicht, G., & Yarde, T. (2017). Environmental mainstreaming and policy coherence: essential policy tools to link international agreements with national development—a case study of the Caribbean region. Environment, Development and Sustainability, 1-21. [Graciela Metternicht, Australia]	Accepted. Coherence dealt with in relation to policy mix and decision making section
14732	78	13	82	21	The whole section of governance needs to make more emphasis on policy coherence (from global, to regional, to national and sub-national), as essential elements to ensure co-benefits of many land-based interventions. See research of Bizikova, L., Metternicht, G., & Yarde, T. (2015). Advancing environmental mainstreaming in the Caribbean Region: The role of regional institutions for overcoming barriers and capacity gaps. Sustainability, 7(10), 13836-13855. | Bizikova, L., Metternicht, G., & Yarde, T. (2017). Environmental mainstreaming and policy coherence: essential policy tools to link international agreements with national development—a case study of the Caribbean region. Environment, Development and Sustainability, 1-21. [Rattan Lal, United States of America]	Accepted and revised as above
6428	78	1			change: et al. 2015), others to et al. 2015), others [Abdel-Hai Benali, Algeria]	Accepted, changed
14728	78	4			Review the entanglement or enmeshment of normative orders, the interfaces between bodies of norms. [Rattan Lal, United States of America]	copyedit to be completed prior to publication
6430	78	7			change: (system that to (a system that [Abdel-Hai Benali, Algeria]	Approved. Revised as suggested
14730	78	8			Correct power asymmetries (at different levels) that prevent the necessary changes (actors, institutions, interlinkages). Support “bioclusters”, working together with society, governments, institutes and universities, youth movements, community groups and socio-cultural learning niches. [Rattan Lal, United States of America]	Accepted and noted
6432	78	10			change: The space where to Space where [Abdel-Hai Benali, Algeria]	Disagree
27502	78	13			This section should be much more specifically focused on the theme of the special report. It is currently far too general and textbook like -- no need to repeat textbooks on governance here. Currently reads more like it belongs in AR6, and should be specifically adapted to the context of the special report. [Doreen Stabinsky, United States of America]	Accepted. Case studies on governance for specifics to the report added
26122	78	13			This section is still overly conceptual and has only little evidence on governance in the context of the respective land challenges. [Hans Poertner and WGII TSU, Germany]	Accepted. Section revised in the SOD
4950	78	16			Here, and throughout this chapter, the authors have used "in respect of". Please remove this wherever possible, or at least change it to "with respect to" [Michelle North, South Africa]	copyedit to be completed prior to publication

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14734	78	23			Promote the empowerment of transnational responsible and inclusive governance systems, in view of effective international cooperation; multilateralism face deepening interdependence, rising multipolarity, and the growing complexity and fragmentation of the global order (evidence shows a pick-and-choose approach among States, civil society and the business sector according to their priorities and interests). efforts at implementation have not only privileged these diverse priorities and competencies but also have neglected accountability, deliberately or otherwise. Ref.: Adams, B. et al., SDG shadow implementation – hidden in plain sight Global Policy Watch Briefings, 2018 [on line]: https://www.globalpolicywatch.org/blog/2018/07/12/sdg-shadow-implementation/ [Rattan Lal, United States of America]	Rejected. Peer reviewed literature required
6434	78	39			change: There is high to There are high [Abdel-Hai Benali, Algeria]	Accepted and revised
3788	79	15	79	15	This nexus box could have come earlier [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Accepted. Governance in this section but nexus issues are raised in relation to the risk section, the instruments in policy mix and decision making coherence
4988	79	22	79	24	These two references to previous IPCC reports need to be corrected [Michelle North, South Africa]	copyedit to be completed prior to publication
3882	79	23	82	6	The role of institutions in adaptive governance could be more explored. The notion of integrative institutions and the institutions of sustainability framework would enrich this section. Some references: Hagedorn (2008) Particular requirements for institutional analysis in nature-related sectors. European Review of Agricultural Economics 35(3): 357-384 https://doi.org/10.1093/erae/jbn019 ; Williamson, O. E. (1998). Transaction costs economics: How it works; where it is headed. De Economist, 146(1), 23–58. [Ilona M. Otto, Germany]	Accepted. Role of institutions discussed in Governance 7.6
6436	79	6			change: theories has demonstrated to theories have demonstrated [Abdel-Hai Benali, Algeria]	Accepted and revised
6438	79	14			change: through use of to through the use of [Abdel-Hai Benali, Algeria]	Accepted and revised
6440	79	23			change: have greater adaptive to have a greater adaptive [Abdel-Hai Benali, Algeria]	Approved. Revised as suggested
20168	80	6	80	6	.....Anderson et al. (2010) suggest..... [Sabit Erşahin, Turkey]	copyedit to be completed prior to publication
20170	80	10	80	10	.....Indigenous knowledge. [Sabit Erşahin, Turkey]	copyedit to be completed prior to publication
1718	80	11	81	22	It would be useful to include an analysis of the power imbalances between different actors in climate policy making and the risk that the rights and interests of local rightsholders will be overlooked in policies that are driven by global climate targets. This risk is especially high if those local rightsholders (Indigenous Peoples, local communities, landless farmers, women) are economically and politically marginalized as often the case in relatively remote ecosystems like natural forests. [Simone Lovera-Bilderbeek, Paraguay]	Rejected as beyond the mandate of the report. The importance of genuine participation is covered in several areas of the chapter but a review of peer reviewed literature on power imbalances is beyond the scope of the chapter
14736	80	35			Look beyond singular areas when studying placed-based development processes and stress the opportunities for neo-endogenous development processes (scale up what works). [Rattan Lal, United States of America]	Accepted. Scale up of policy and instruments covered in instrument sections
6038	81	8	81	10	Zanzanaini, C., Tràn, B. T., Singh, C., Hart, A., Milder, J., & DeClerck, F. (2017). Integrated landscape initiatives for agriculture, livelihoods and ecosystem conservation: An assessment of experiences from South and Southeast Asia. Landscape and Urban Planning, 165, 11–21. https://doi.org/10.1016/j.landurbplan.2017.03.010 [Chandni Singh, Myanmar]	Noted and referenced

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27504	81	15	81	16	Food security crises may happen on shorter time frames in the context of desertification and land degradation. Just because the land is degrading over a period of decades doesn't mean that the human processes of food production aren't undermined on a consistent and growing basis that can result in loss of production this year or next, or for several years in a row, leading to food crises. This distinction between extreme events of flood or drought and slow-onset events, in the context of climate change and food security, is not helpful. What specific governance systems are in place to deal with these very real events in people's lives? This section would be much more useful in the context of the report if specific cases, such as large-scale humanitarian crises precipitated by climate change, could be concretely examined. [Doreen Stabinsky, United States of America]	Accepted and revised
4952	81	26	82	1	"summary", rather than "summation" [Michelle North, South Africa]	copyedit to be completed prior to publication
6442	81	24			change: There is high to There are high [Abdel-Hai Benali, Algeria]	Accepted and revised
27506	81	29			Content of the table is far too general and theoretical to be of much utility in this special report on land degradation, desertification, and food security. [Doreen Stabinsky, United States of America]	Accepted and revised
23108	82	8	82	8	Beyond inclusiveness social equity should be sought, since without this disadvantaged and marginalized groups may not or will not want to participate. Despite land tenure has been addressed in page 34 and elsewhere, land tenure security and property rights have not been addressed, including problems such as land grabbing and related local food security or eviction in the case of countries with poor law security and corruption. Land reform is also related to this since it seeks to change the distribution of land to reach a juster resource distribution. A palliative approach has been adopted in some sections of the document when referring in multiple cases to social protection instead of social justice that addresses the root causes of the problem. [Urbano Fra.Paleo, Spain]	Accepted in relation to land topics covered in chapter, but rejected as social justice is outside the scope of the paper
1466	82	8	82	19	It should be explicitly stated that inclusive governance does not mean simply "citizen engagement" but inclusion of different populations within the citizenry. This is again a key means of countering potential elite capture and would facilitate, for instance, gender-equitable inclusion or inclusion of marginalized populations. [Tonya Rawe, United States of America]	Accepted. Elite capture and gender box capture these dimensions
18950	82	13	82	13	To add an idea, following sentence and reference can be inserted in front of "This style of governance makes ..." : "This citizen engagement is also imperative for analyzing and understanding of pressures caused by aggregated informal coping strategies of local residents, which are important drivers of natural resource depletions particularly in developing countries and are often lost in a conventional policy development processes in natural resource management (Ehara et al. 2018)." Ehara et al, 2018. Addressing Maladaptive Coping Strategies of Local Communities to Changes in Ecosystem Service Provisions Using the DPSIR Framework, Ecological Economics, Volume 149, 2018, Pages 226-238, ISSN 0921-8009, https://doi.org/10.1016/j.ecolecon.2018.03.008 . [Makoto Ehara, Japan]	Accepted and referenced
27508	82	20	82	21	Instead of just a figure, the main narrative of the section should be about governance in relation to particular scenarios, emergent risks, and institutions to address those risks. [Doreen Stabinsky, United States of America]	Agreed. The risk section has been revised. This comment is incorporated in the revised draft

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3790	82	23	82	23	Some of these are knowledge gaps in relation to land-climate in general, not just SD links and emergent risk. [Jim Skea, United Kingdom (of Great Britain and Northern Ireland)]	Noted. Revised in SOD
3884	82	24	83	45	The chapter could also mention the need for developing a new kind of models/modelling approaches that would allow to incorporate inequalities and human agency in modelling social-environmental systems. Some attempts of developing a new social-ecological system modelling framework is presented in this publication: Donges et al. (Forthcoming) Earth system modelling with complex dynamic human societies: the copan: CORE World-Earth modeling framework, Earth System Dynamics, https://www.earth-syst-dynam-discuss.net/esd-2017-126/esd-2017-126.pdf [Ilona M. Otto, Germany]	Noted. This is perhaps addressed in Ch6
6444	82	3			change: on Table 7.5 to in Table 7.5 [Abdel-Hai Benali, Algeria]	Accepted and revised
3510	82	9		11	This would only be an instrumental use of citizen... There is more: the equity principle! All human beings have a right to decide on future, on the definition of sustainable development, the future we want, the ways we choose to reach a sustainable future (especially as risks and uncertainties are high): the forming of a desirable future demands normative derisions by the whole society under consideration of factual knowledge. [Cordula Ott, Switzerland]	Noted. Unclear exact revision requested and which peer reviewed literature to assess
6446	82	9			change: on rights of to on the rights of [Abdel-Hai Benali, Algeria]	accepted and revised
4954	82	16			Delete "their variety of" and "in order" [Michelle North, South Africa]	copyedit to be completed prior to publication
27510	83	1	83	2	This is not a very useful concluding statement. Indeed, understanding the complex interconnections of land, climate, society , ecosystem services, and food is actually the whole point of the special report. [Doreen Stabinsky, United States of America]	Accepted and revised
18982	83	15	83	18	urban development- urbanisation may relate better to the previous references pg 18/9 [Aditi Khodke, Japan]	Accepted and revised
27512	83	15	83	18	Remove "and/or solar energy, increasing urban developoment, and resource substitution to plastics" as these are irrelevant to the curren treport. [Doreen Stabinsky, United States of America]	Accepted. Addressed in SOD
2626	83	21	83	21	Perhaps authors could include a bullet point considering further research on the use of models and Earth Observation to understand the complex interactions mentioned. [William Lahoz, Norway]	Agree. Models and earth observations could be useful to better understand these interactions. Addressed in SOD
27514	83	25	83	40	Remove the paragraph. This section should be completely rewritten for the SOD. [Doreen Stabinsky, United States of America]	Noted. Revised in SOD
11690	83	15			Suggest to add something on the promise of biodiversity-centric or ecosystem-friendly REDD+ with focus on indigenous afforestation. [Debra Roberts, South Africa]	Noted. Addressed in SOD

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Comment No	From Page	From Line	To Page	To Line	Comment	Response
3512	83	32		35	<p>Incorporating social science is key.. The result here is typical and not helpful: 'more research is needed' on many issues</p> <p>But we need to investigate leverage and triggers towards SD ... ==> this lies in the effective organization of the science-society interaction and in joint shaping of policies and the future.</p> <p>Sources: sustainability science, trans-disciplinary approaches, New Institutionalism, Constitutionality (for example: Haller et Rist 2014: Constitutionality: Conditions for Crafting Local Ownership of Institution-Building Processes) a lot exists on what works...</p> <p>There will be no success in developing adaptive and effective policies and decision-making, in creating a just and safe world without: societal interaction in future forming..... inclusive and equitable governance processes, inclusive just governance institutions. [Cordula Ott, Switzerland]</p>	Accepted. The para is revised for SOD
14738	83	45			<p>By equipping and organizing communicators in cultural and community institutions, it's possible for advocates on a range of issues to move away from partisan echo chambers and into places with broader civic resonance. where elected officials and other policymakers hesitate to take stances (IGES REDD, 2014) Ref.: IGES REDD+seminar, Bridging local perspectives and global environmental agendas in forest management” [on line]: https://www.iges.or.jp/en/natural-resource/20141021_2.html [Rattan Lal, United States of America]</p>	Suggestion noted but literature rejected as not peer reviewed
18586	84		134		<p>The chapter authors should consider consulting the following references from FAO relevant to the chapter, namely: 1) FAO. 2017. The future of food and agriculture - Trends and Challenges. Available at http://www.fao.org/3/a-i6583e.pdf; 2) FAO. 2017. Migration, Agriculture and Climate Change - Reducing vulnerabilities and enhancing resilience. Available at http://www.fao.org/3/i8297EN/i8297en.pdf; 3) OECD/FAO. 2018. Food security and nutrition: Challenges for agriculture and the hidden potential of soil - A report to the G20 Agriculture Deputies. Available at http://www.fao.org/3/CA0917EN/ca0917en.pdf; 4)FAO/OECD. 2012. Building resilience for adaptation to climate change in the agriculture sector. Available at http://www.fao.org/docrep/017/i3084e/i3084e.pdf [Aziz Elbehri, Italy]</p>	Accepted and literature noted and used where applicable
20310		41	42		<p>In this chapter, it would be interesting to clarify how different level of governance (local, regional, national, international) must work together in the allocation and execution of decision-making processes. Where do legal responsibilities have to be established to maintain afforestation programme efficiently? [Petra Minnerop, United Kingdom (of Great Britain and Northern Ireland)]</p>	Noted and accepted
19378					<p>Problem with downloading the chapter, hence, could not review [Binaya Raj Shivakoti, Japan]</p>	Apologies for the issues - please contact the TSU
11646					<p>Check that somewhere biofuels, BECCS and REDD+ are fully explained. Eg a box on how they work. And any other special technology that comes up in the report, that is not perhaps widely known. Perhaps something on decision tools. [Debra Roberts, South Africa]</p>	Accepted. These issues will be addressed in a cross-chapter box rather than within this chapter.
11652					<p>Check there is a clear “where to from here” for policy makers. [Debra Roberts, South Africa]</p>	Accepted. Will be included in our case studies

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11680					This chapter would benefit from more diagrams and schematics, that summarise, illustrate, visualise and clarify complex discussion points. For instance, example flow charts of decision making trees. Consider potential readers you want to reach, how can you make the content of the chapter most accessible? How can you ensure that this document can actually be used, in practice, to help with decision making? [Debra Roberts, South Africa]	Accepted. Figures and case studies added
20892					The only reference in this chapter is done in page 50, line 24. In fact, patents are mentioned to negatively assess its role as data “for empirical analyses is generally not feasible as the “technology” in question is often related to resource management and is neither patentable nor tradable (Glachant and Dechezleprêtre 2017)”. However recent developments point in a different direction. The European Patent Office has developed since 2010 a patent classification system (Y02) meant to collect in one convenient location selected technologies for climate change mitigation and adaptation to climate change. The scheme covers GHG capture(Y02C), climate change mitigation technologies in buildings (Y02B), ICT (Y02D), energy generation (Y02E), industry including the agroalimentary sector (Y02P), transport (Y02T) and waste and wastewater treatment (Y02W), and, since 2018, technologies for adaptation to climate change (Y02A). This classification system eases the access to patent applications and specifications of climate change relevant technologies. These technologies are scattered across many areas of technology and this classification scheme gathers them and also the patents associated to the different technologies. In particular, several areas in Y02P (for industry and agroalimentary) and Y02A (for adaptation to climate change) offer a structured repository of patents in fields relevant to the scope of this report, easing the use of patents in this area as indicators, still within the limitations discussed by Glachant and Dechezleprêtre. These areas are Y02P60/00, for climate change mitigation technologies relating to agriculture, livestock or agroalimentary industries, and Y02A40/00 for adaptation technologies in agriculture, forestry, livestock or agroalimentary production. The scope of these two classification areas can be explores here: https://worldwide.espacenet.com/classification?locale=en_EP#/CPC=Y02P60/00 https://worldwide.espacenet.com/classification?locale=en_EP#/CPC=Y02A40/00 [Francisco Javier Hurtado Albir, Germany]	Accepted. Reviewed Y02P and Y02A patents as well as the studies referred to in the following comments. There are a number of patents with direct relevance for developing countries, but the overall number remains low. The number of patents is also not indicative of the diffusion of technology which is the greater barrier to adaptation and mitigation.

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20894					Continuing with the impact of Intellectual Property in the area of climate change, the European Patent Office has published four reports in cooperation with UNEP exploring the role of Intellectual Property in Climate Change relevant technologies for different geopolitical scenarios, using the Y02 classification scheme. In the report "Patents and clean energy technologies in Africa" (European Patent Office, 2013) the authors state "With less than 1 % of patent applications relating to clean energy technology filed in Africa, patent rights are unlikely to be a major consideration in any decision to exploit CETs in the region", where CET means Clean Energy Technologies. Although the 1% must be considered in the frame of a limited number of technologies (not all the areas of Y02 had been developed when the report was drafted), the report focuses in Africa, and five years have elapsed since the publication of the report, the essence of the reasoning is qualitatively valid and certainly may change the perception of the role of Intellectual Property in the context of Climate Change relevant technologies in the Least Developed Countries. The report can be read here: http://www.epo.org/news-issues/technology/sustainable-technologies/clean-energy/patents-africa.html [Francisco Javier Hurtado Albir, Germany]	Accepted
20896					A similar report, assessing the situation in Latin America, has been also published: http://www.epo.org/news-issues/technology/sustainable-technologies/clean-energy/patents-latin-america.html [Francisco Javier Hurtado Albir, Germany]	Accepted
24652					The science is not clear, it is here with the unknown(unknowns) [Lizzy Igbin, Nigeria]	Accepted and covered in chapter 1
4700					Throughout this chapter, words like 'however', 'therefore', 'nevertheless', 'alternatively', and 'as a result' need to have commas placed after them to indicate a pause. [Michelle North, South Africa]	copyedit to be completed prior to publication
4832					Please ensure all words that are supposed to be hyphenated are, for example, "decision-making", "climate-related", "climate change-related", "market-based", etc. [Michelle North, South Africa]	copyedit to be completed prior to publication
27574					Evidences Which Have Not Been Highlighted but Would Be Considered a Serious Omission If Left Out Of the Report Ahzegbobor P. Aizebeokhai et al, "An Overview of the Potential Impacts of Climate Change on Groundwater Resources", Journal of Informatics and Mathematical Sciences Vol. 9, No. 2, p 447, 2017 "Current tools to facilitate integrated appraisals of adaptation and mitigation options across multiple water-dependent sectors are also inadequate. Thus, more research on the effects of climate change on hydrologic variables and systems are required to improve the understanding and modelling of climate change at spatial and temporal scales relevant to decision making".. [Omoyemen Lucia Odigie-Emmanuel, Nigeria]	Accepted. Table 7.1
21420					water security is hardly addressed throughout the whole report, however it is completely linked to food security (as indicated in some references in the document, such as in pages 30 or 38) and to livelihoods and exposure to hazards, being the most conspicuous river and coastal flood exposure. Beyond this there is not an association of water security with drought as a hazard (page 43) [Urbano Fra.Paleo, Spain]	Accepted. Table 7.1.
304					"How do you define the risk? Probabilistic (likelihood) or deterministic?" [Vidya Samadi, United States of America]	Accepted and revised in 7.3

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306					"The risk associated with different disciplines under climate change impacts has been greatly explained. My question is about the risk associated with Civil infrastructure (dam, reservoir, etc.) failure? Since I have not found any details on this in the report. I am referring to page 7-26." [Vidya Samadi, United States of America]	Accepted and revised in 7.4
308					"The impact of climate change on flooding (page 7-44) can be much improved. The authors may need to include how increasing in flood magnitudes may increase the risk and human-infrastructure vulnerability." [Vidya Samadi, United States of America]	Accepted and revised in 7.5
310					"The authors may also need to discuss the resilience of engineering infrastructure to extreme events (e.g., flood) and the impacts of climate change on these structures." [Vidya Samadi, United States of America]	Accepted and revised in 7.3