

External review of the first order draft of the land degradation and restoration assessment
30 May - 11 July 2016
Chapter 6

Reviewer Name	Chapter	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	Response (from Chapter 6)
LI Qingfeng	0	0	general comment on FOD LDRA			1, The Report in overall is too academia, too detailed in scientific exploration and descriptions. In consideration of the principal aim "to facilitate the implementation of the National ... and the "Inter-governmental" nature of the organization, the Report has to be more "publicly explicit", rather than "scientifically complicated". If the Report is to be read by the policy makers, and to draw attentions from the public, the content is to be simplified and the volume greatly reduced, one third is more than enough.	In the chapter revision these points are taken into account. The content was simplified wherever possible.
LI Qingfeng	0	0	general comment on FOD LDRA			2, An Executive Summary and a List of Acronymns and Abbreviations are necessary.	An executive summary and a list of Acronymns and Abbreviations has been added to the document
German government	0	0	general comment on FOD LDRA			We believe that the first order draft of the IPBES thematic assessment on Land Degradation and Restoration generally has a comprehensive and scientifically sound structure and we congratulate the authors for this achievement. This is a <i>first order draft</i> however, and, therefore, we hope that our comments will be useful for the further development and maturing of this assessment so that in the <i>second order draft</i> scientifically strong and comprehensive key messages can emerge. We very much look forward to the <i>second order draft</i> of this important assessment.	Thank you for taking the time to review the full report. We appreciate your feedback and the constructive comments you offered thereafter.
German government	0	0	general comment on FOD LDRA			We request the co-chairs of this assessment to ensure that the general comments listed for this assessment are made available to the CLAs and LAs of all 8 chapters. Reason: Cross-referencing between the 8 chapters of the FOD sections by chapter authors should help to (1) avoid repetition; (2) use the same terminology/definitions, (c) strengthen the logical connection between the 8 chapters and, thus, (d) strengthen the overall storyline of the assessment.	1) In the Second Author Meeting (SAM) in Bonn chapter boundaries were defined; 2) glossary has been made; 3) common drivers and ES were addressed from different chapter perspectives
German government	0	0	general comment on FOD LDRA			It needs to be critically highlighted that chapter 1 needs to provide a sound basis on the scope of this assessment and on the key definitions/terminology used throughout the 8 chapters. This should help to develop a strong storyline throughout the chapters. Chapter 8 on decision support should reflect more strongly on the findings of the previous chapters and also discuss policy support tools. Currently, chapter 8 remains quite general. All in all, the chapter authors should analyse the findings of the other chapters of the assessment and cross-reference to these. As we are discussing a thematic assessment which should also add value to the IPBES global assessment (D2c), we strongly encourage the authors of the 8 chapters to also analyse the relevant findings emerging from the four regional IPBES assessments.	Cross-chapter references are included in chapter 6. Broader set of decision support tools are included and policy instruments synthesized. We have read the FOD of the Regional assessments.
German government	0	0	general comment on FOD LDRA			A major cross-cutting issue throughout the document is that land degradation and restoration are being "lumped" too much together , without considering that each of these measures has different drivers, processes etc. Discussing both aspects separately and with a stronger biodiversity and ecosystems perspective would add value to the document.	We have introduced and clarified the difference and changed the text where appropriate (eg not avoiding LDR, but avoiding LD and stimulating R)
German government	0	0	general comment on FOD LDRA			The assessment should provide balanced scientific-based opinions and not overemphasize certain opinions, thereby possibly paying less attention to other perspectives. Therefore, the arguments in a chapter should not build just around one or two opinion-based citations.	We used mutple sources but looked speficically for data/evidence-based references, not for opinions or perspectives.

German government	0	0	general comment on FOD LDRA	Please ensure that all 8 chapters will start with an executive summary that includes a list of key messages and their degrees of confidences, based on the Platform's confidence framework in the Platform's guide on assessments (IPBES/4/INF/9). Such key messages will be extremely relevant for the user groups of this assessment and most certainly for identifying policy options.	OK. An executive summary where the key messages are highlighted and the degree of confidence indicated has been included.
German government	0	0	general comment on FOD LDRA	Provide an annex for this assessment that lists all the acronyms, abbreviations and key terms (including their definitions) used in the assessment.	We have added a list of abbreviations and glossary items. Key terms used by many chapters were also defined in Chapter 1
German government	0	0	general comment on FOD LDRA	Ensure consistency in the wording and the use of the key terms provided in section 1.1.2 throughout the document (all 8 chapters) of this assessment. Please also ensure that the wording of definitions provided in section 1.1.2 corresponds to the wording of these definitions as outlined in Decision 3/1, Annex VIII.	We have added a list of abbreviations and glossary items
German government	0	0	general comment on FOD LDRA	Ensure that prescriptive language is not used.	Text has been checked for prescriptive language and replaced with "if...then" phrasing.
German government	0	0	general comment on FOD LDRA	In the further development of the assessment report, please also refer to other IPBES work programme items that are thematically linked to this assessment (e.g. "capacity development (D1a/b)"; "indigenous and local knowledge (D1c)"; "regional assessments (D2b)"; "global assessment (D2c)"; "pollination, pollination and food production (D3a)"; "scenarios and modeling (D3c)"; "policy support tools (D4c)").	Cross-reference to the IPBES policy support tools has been made.
German government	0	0	general comment on FOD LDRA	Regarding chapter 1 and in chapter 8: highlight the relevance of the LDR assessment for the Strategic Plan for Biodiversity 2011–2020 / Aichi Targets (specifically goal 15), and the SDGs (and especially SDG 15).	The Aichi targets and the SDG were addressed in synthesis tables in chapter 8, Section 8.4
German government	0	0	general comment on FOD LDRA	Outline in chapter 1 and in chapter 8, how the land degradation and restoration assessment will deliver to/support the IPBES global assessment on biodiversity and ecosystem services (D2c).	No specific action taken in the chapter text. Chapter 1 deals with overarching issues, such as this one.
German government	0	0	general comment on FOD LDRA	The terms "sustainable land use" and "sustainable land management" are somewhat being used interchangeably. Please check the definitions of both terms and if necessary, please align the use of these terms accordingly throughout the assessment report (all 8 chapters).	Included and used as defined in the glossary
German government	0	0	general comment on FOD LDRA	Throughout the document the terms "reduction" and "mitigation" are being used. Please provide information about the technical difference between both terms.	This has been addressed in the glossary and used as such
German government	0	0	general comment on FOD LDRA	Regarding figures, tables, photos/images: Ensure in the <i>second order draft</i> and the associated SPM that the quality of all visual materials should be high.	Visual materials have been improved to the best quality possible through using a specialized cartographer to redraw the figures and obtaining high quality photos.
German government	0	0	general comment on FOD LDRA general	Information and data targeting the same or similar issues (e.g. on urbanisation/global extent of land degradation, deforestation rates ...), are outlined in the various chapters of the report, partly by referring to different statistical sources. We strongly encourage you to develop comprehensive chapters-spanning tables and figures on similar issues in order to align information throughout the 8 chapters so that strong key messages can emerge.	A set of cross chapter drivers, trends is used, including policy instruments.
German government	0	0	comment on FOD LDRA	Ensure for all 8 chapters that data and other facts (numbers, percentages, statements, citations) are provided with at least one reference.	References have been provided.

German government	0	0	general comment on FOD LDRA	Not all references cited in the text are to be found in the reference lists of the chapters. Please critically cross-check.	All reference material has been added to the referece manager to ensure correct citations.
German government	0	0	general comment on FOD LDRA	We have acknowledged that professional language editing will be taken care of at a later stage. We have therefore restricted ourselves to providing comments only on the thematic contents of each chapter. Therefore, please ensure that language editing is taken care of.	OK. Text will be edited in a later stage
Hamid Custovic (SPI)	0	0	general comment on FOD LDRA	Perhaps excusable in a FOD, but the majority of the text needs substantial editing to improve English expression and ensure clarity.	Although text will be edited is a later stage, initial editing has been carried out by the coordinating lead authors to ensure readability of the chapter
Hamid Custovic (SPI)	0	0	general comment on FOD LDRA	The document length should be substantially reduced, so that it is readable for the intended audience of policy-makers. Delete the text that does not relate directly to the topic of assessment of land degradation. Condense the explanatory text and provide references for further detail.	We aimed to be as concise as possible in the chapter revisions.
Hamid Custovic (SPI)	0	0	general comment on FOD LDRA	The report title is misleading. The assessment is not about land degradation but rather about biodiversity loss, because land degradation has been defined here as “processes that cause biodiversity loss and loss of ecosystem functions and services”. Ideally the title should be reworded to reflect the content.	Title used was given to us in the Scoping Document, which was approved by IPBES Plenary (please see annex VIII to Decision IPBES-3/1). We are not in the position to change the title.
Hamid Custovic (SPI)	0	0	general comment on FOD LDRA	We encourage the authors to elaborate on how land degradation/restoration can seamlessly integrate agriculture, ecosystems services and biodiversity.	This has been addressed in the final version of the assessment report.
Hamid Custovic (SPI)	0	0	general comment on FOD LDRA	It would be helpful if the report used the language of DPSIR; this could help to minimise the repetition between chapters, if authors can recognise that for example chapter 4 should be confined to pressure and state, and not also discuss drivers (ch3) and impacts (on ecosystems - Ch 5), and human responses (ch 6).	The assessment is build around DPSIR. Chapter 6 and part of 8 addresses the response part. Drivers, Pressures, State, Impact Response
Hamid Custovic (SPI)	0	0	general comment on FOD LDRA	Not all references cited can be found in the reference list. This needs to be taken care of.	All literature has been added to the referece manager to ensure correct citations.
Hamid Custovic (SPI)	0	0	general comment on FOD LDRA	The second order draft should include key messages and their level of confidence. This is currently lacking.	Executive summary has been developed, including level of confidence
Hamid Custovic (SPI)	0	0	general comment on FOD LDRA	Some item are repeated on introduction of different chapters.	OK. Some overlap in intro is OK, as long as being dealt with from a specific chapter angle.

				<p>Considering IPBES' role as the interface between science and policy, we consider it critical that the reports clearly communicate the key findings, implications and recommendations within chapters so that they can be readily used by policy makers. To assist this there may be value in the chapters having a uniform structure, similar to that in the Executive Summary of the IPCC Chapters. In addition to including an executive summary, the following headers might help focus the authors' attention to ensuring their chapters are targeted to policy-makers as opposed to an academic audience:</p> <ul style="list-style-type: none"> – Executive Summary 1. Key Findings 2. Critical Implications 3. Gaps in Knowledge and Data 4. Recommendations 5. FAQ 	
Peter Onorato	0	0	general comment on FOD LDRA	<p>A clear and consistent structure, along with key findings and recommendations, could be of great benefit to policy makers.</p>	All chapters have an executive summary. The SPM will address all other items
Peter Onorato	0	0	general comment on FOD LDRA	<p>some of the Chapters (particularly Chapter 2) competing scientific views on certain issues are presented, almost debate-like, one after another. While it's important to understand the current state of the science, we do not think that IPBES Assessment Reports should be used as a platform to advance contested academic theories as this diminishes the report's ability to be a clear and concise communication document. In order to best bridge the gap between science and policy, and to provide policymakers with clear guidance, Assessment Reports should present the latest knowledge and make recommendations based on this. Policy makers generally don't have the depth of knowledge to balance contested scientific theories and will rely on IPBES' work to clearly identify the best policy options available</p>	Our assessment will highlight contested ideas/findings, and report those using the IPBES Confidence terms. The arguments presented in this draft were significantly reviewed, edited and reduced in the subsequent versions of the report
Peter Onorato	0	0	general comment on FOD LDRA	<p>The SDGs constitute the new global paradigm for sustainable development. As such, we consider there to be value in drawing more links between the SDGs and IPBES' work within the reports. Again, this will help policymakers effectively prosecute the case for improved biodiversity policies, and help identify where clear links exist between biodiversity policy and other issues including development and broader environmental outcomes, strengthening the case for biodiversity policy priorities.</p>	Relevant SDGs have been addressed in a synthesis table Section 8.4. and also features strongly in SPM.
Ayman Batisha	0	0	general comment on FOD LDRA	<p>The entire report should be homogenously arranged, logically build and fully integrated with no inconsistency, disharmony or overlapping within its chapters and sections. The titles of chapters and sections are generally too long to be professional.</p>	This was addressed at the Second Author meeting; portions off text were exchanged or deleted to eliminate unnecessary overlap. Section titles were also edited to reduce length.

Ayman Batisha	0	0	general comment on FOD LDRA	<p>Number of sections still requires more work and careful revision. As examples, in Chapter 1, There should be more sections to clarify 1.2 What constitutes Success in the restoration of degraded land?; 1.3.1.1 until 1.3.1.5 should be corrected; in Chapter 2, the classification of Natural and social science and the law, Human sciences, and Social inequities should be justified (or correct); in Chapter 3, how "3.6. Food security through tackling land degradation" is related with the direct and indirect drivers of land degradation and restoration; in Chapter 4, most of sections deals with multiple drivers and Key Human Drivers, although the reader expect that "the status and trends of land degradation and restoration and associated changes in biodiversity and ecosystem functions" will be analyzed; in Chapter 5, the reader expect that there are some sort of comparisons between the case of land degradation and the case of land restoration; in Chapter 6, Responses to avoid land degradation and restore degraded land, the reader expect that there is an Environmental assessment evaluation and a full Economic and financial mechanisms, how can it be applied in the mentioned Case studies and how he/she can estimate the total cost in his/her Case study; in Chapter 7, Issues not being raised include how soft computing techniques such as Fuzzy Logic and Neural Networks can develop scenarios of how land degradation and restoration could evolve in both Near-term and Long-term; in Chapter 8, the reader expect that there a focus on soft computing techniques, and the possible application in the fields of the decision support systems used to address land degradation and restoration based on a well-defined Environmental indicators.</p>	The full assessment has gone through multiple revision rounds and streamlining across chapters. Better linkeages between chapters have been developed in the final draft.
Ayman Batisha	0	0	general comment on FOD LDRA	<p>The entire report should be homogenous and integrated with no interference within its chapters and sections. As a quick example, the first section in Chapters 1, 5 & 6 is Introduction; whereas in Chapter 2 is Executive summary: Key Messages; in Chapter 3 is Purpose and value of chapter; in Chapter 4 is Introduction to the degradation process; in Chapter 7 is Table of Content, Executive Summary (Key policy messages), At the global level, At the local level (only where different from global messages); and in Chapter 8 is Executive Summary. Similarly, the end section in Chapter 1 is 1.3 Case studies of successful land restoration; in Chapter 2 is Conclusions - Working with perceptions as a policy tool; in Chapter 3 is 3.7 References Cited; in Chapter 4 is 4.6 Conclusions, 4.7 Glossary, 4.8 References; in Chapter 5 is 5.5 Remaining Challenges; in Chapter 6 is 6.4.4.2 Case studies, 6.5 References; in Chapter 7 is 7.4.4 New approaches: Visioning LDR for Sustainable Futures; and in Chapter 8 is 8.4.3 Identify and prioritize responses to reduce trade-offs and/or enhance synergies to address land degradation and/or develop restoration.</p>	The full assessment has gone through multiple revision rounds and streamlining across chapters. Consistent structuring across chapters has been developed as well.
Ayman Batisha	0	0	general comment on FOD LDRA	<p>Numbers of topics still require work and revision, as examples, please compare "3.3.6 Fire regime change" with "4.3.6 Fire regime change", and "6.3.1.5 Fire regime change", also, compare "3.4 Climate change as a threat multiplier of degradation drivers", with "4.2 Cross cutting degradation processes common to multiple drivers", and "6.3.1.10 Climate change as a threat multiplier".</p>	The full assessment has gone through multiple rounds of revisions by authors and co-chairs. Please see the final draft of the assessment.
Ayman Batisha	0	0	general comment on FOD LDRA	<p>There should be examples/chapter to clarify how the biogeochemical cycle (carbon, oxygen, nitrogen, phosphorus, sulfur, calcium, rock and water etc.) through both biotic (biosphere) and abiotic (atmosphere, hydrosphere, and lithosphere) compartments of Earth can cause land degradation and restoration. Special attention should be emphasized to the human-caused cycle of atrazine, which may affect certain species. Land degradation and restoration should be assessed in the light of Global Changes; Global Warming; Global Sea Level Rise, and Global Ocean. Land degradation and restoration should be assessed into two categories which operates at different time scales: the biological – physical, (Near-term) and the geological, (Long-term). Land restoration opportunities, planning, economics, implementation constraints, and limits should be defined.</p>	Land restoration decision making opportunities and limits and instruments are hightlighted/sythesized in section 8.2 and 8.3

Ayman Batisha	0	0	general comment on FOD LDRA	<p>Assessment on land degradation and restoration should emphasize on multiple Land-use Categories; Forest Land, Cropland, Grassland, Wetlands, Peatlands, Settlements, and most important and significant Arid and Semi-arid land. Assessment on land degradation and restoration should emphasize on Policy Oriented Research. Human Settlements, Industry, and Infrastructure in both Urban and Rural Areas should be surveyed. Cross-cutting issues such that Agriculture, Water, Energy, Industrial Processes, CO2 Transport, Injection and Geological Storage, Waste Generation, Composition, Incineration, Treatment, Discharge, Disposal and Management should be focused.</p>	We have discussed the relevant decision making strategies for as many landuse categories as we can including Rangeland, cropland, forest, wetland and built-up areas
Ayman Batisha	0	0	general comment on FOD LDRA	<p>Research related to the Science of land degradation and restoration should be emphasized on. Assessment on land degradation and restoration generally deal with multiple meanings of fuzzy concepts, so it is strongly recommended to add chapter/section to provide General Guidance to the subject of how applying fuzzy concepts in the context of land degradation and restoration using soft computing techniques. The scope of soft computing covers the areas of Fuzzy Logic, Neural Networks, Chaos Theory, Evolutionary Computing, Rough Sets, Ant Colony, Immunological Computing, Particle Swarm, Wavelet, Probabilistic Computing, Hybrid Methods and other similar techniques to address real world complexities achieving tractability, robustness and low cost solution. The chapter may be devoted to effective approaches to Data Collection; dealing with Uncertainties; Methodological and efficient technique Choice; Time Series Consistency Identification of Key Categories, and Quality Assurance/Quality Control and Verification. The application areas of soft computing include but are not limited to Detection and Attribution of land degradation: from Global to Regional and local, land degradation Projections and Predictability (Near-term and Long-term). Land degradation Phenomena and its relevance for future Global and Climate Change. Detection and attribution of observed and multi-sector degradation, emergent risks, key vulnerabilities, and opportunities should be addressed. Land degradation and restoration should be assessed in the light of statistical analysis and levels of confidence.</p>	Thank you for this comment. You present a valid point, but it is not relevant for Chapter 6, under the agreed upon scoping. Chapter 2 provides further details on "fuzzy concepts"
Ayman Batisha	0	0	general comment on FOD LDRA	<p>Atlas of Global, Regional and local land degradation and restoration Existing, Projections and Predictability should be annexed.</p>	We tried to integrate all relevant information within the body of the text, so as to not overload the final report with extensive back matter.
Anna Luise	0	0	general comment on FOD LDRA	<p>The Chapters are disomogenous. Their structure is different as well as the degree of deepening of the topics which, in general, remains too weak. Some general concepts and the conceptual framework itself are repeated too many times with no real added value in the various Chapters. Even if all concepts should be based on sound scientific data and information, too many references could generate some confusion. The report should take into consideration its utilisation, among all, in policy making processes, and adopt an appropriate language. Some overlapping, for example for Chapter 7 and 8. On the contrary, some citations are disomogenous.</p>	We solved inappropriate overlap between chapters and within chapters for the final draft.
Ashish Upadhyay	Chapter 6	0	0	<p>General: Chapter 3, 4 and 6 some of the components are overlapping like Grazing land management, Cropland management, fire regime change, planted forest are like this topics are introduction and way of representation are overlap so pl. arrange the proper format.</p>	In the SOD, Chapter 6 has focused only on 'responses' and their effectiveness to eliminate the overlap with chapters 3 and 4.

Wang Yujie	Chapter 6	0	0			General: Chapter 6, consistent with Chapter 3 which lists the direct and indirect drivers of land degradation and restoration, assesses the human responses (both direct and indirect) that have been taken to avoid land degradation and restore degraded land. It develops a framework to assess the effectiveness of existing interventions to deal with land degradation, assesses how responses to degradation problems and restoration approaches vary according to context, examines the effectiveness of preventive versus mitigating responses targeted to direct drivers of land degradation, and analyzes the effectiveness of response mechanisms. Case studies of success or failure of different responses are provided in the end of this chapter.	Thank you. This comment is just an overview of chapter 6 coverage in relation to earlier chapters; no specific response to this comment is warranted.
LI Qingfeng	Chapter 6	0	0			General comment: 1. The Report in overall is too academia, too detailed in scientific exploration and descriptions. In consideration of the principal aim "to facilitate the implementation of the National ... and the "Inter-governmental" nature of the organization, the Report has to be more "publicly explicit", rather than "scientifically complicated". If the Report is to be read by the policy makers, and to draw attentions from the public, the content is to be simplified and the volume greatly reduced, one third is more than enough.	This is a very important comment given the ultimate purpose of the assessment report. We agree with the comments. In the SOD, we tried to make it more relevant to policy makers and practioners by introducing case studies along with the assessment of specific responses and their effectiveness. This way we beleive that we can balance between scientific vs. policy-relevant and easily understandable. In the SOD executive summary has been provided. It is our believe that there will be a list of Acronyms in the fincal version of the report, which will be compiled by secretariat. So it will be there at the end.
LI Qingfeng	Chapter 6	0	0			General comment: 2, An Executive Summary and a List of Acronymns and Abbreviations are necessary. The "direct & indirect drivers" in these lines should be in consistent with those in Chapter 3. To save space, please delete similar sentences which have already been included in Chapter 3.	(22-26 Aug, 2016) and considered the comments made by reviewers to accommodate where relevant. We have minimised the duplications by focusing on responses rather than the drivers and processes. We have minimised as well as
Wang Yujie	Chapter 6	2	29	2	40		
Wang Yujie	Chapter 6	2	50	2	50	The sub-section title "Non-erosive soil degradation" is not appropriate (in our opinions) and "soil quality degradation" could be a better one to replace it. Please revise the sub-section title in Line 1135 as well	This comment has been taken care while revising the chapter structure. Thank you. We now have incorporated new sections in the new structure to deal with wetland conversion and hydrologic regime change, specifically, to emphasize water related issues.
Wang Yujie	Chapter 6	2	51	2	52	More attention should be given to water related extreme events (e.g., floods and droughts) in Sub-sections 6.3.3.4 and 6.3.3.5.	
M. Y. Yazdandoost	Chapter 6	3	73	59	2331	I think some policy formulation will create this chapter more attractive, provided following points to get involved: --While inequitable access to land, human population dynamics, lack of social equity and poverty are the most significant factors that increase land degradation, how to build the Partnership for Action on Land Degradation Neutrality (PALDN)?; - -How to analyze the opportunities and challenges for the promotion of a socially inclusive Land Degradation Neutrality (LDN)? Answering the above 2 questions, will create positive environment to enhance institutional capacity, as the: Institutional capacities need to be enhanced for transformative change in adopting practical tools and good practices, from assessments to stakeholder engagement, policy formulation and strategy implementation at all spatial scales.	In the new structure, we have emphasized important global initiatives, including LDN in section 6.5. The need for capacity building has been dealt in section 6.4.5. We have significantly changed the SOD compared to its earlier version (FOD), we have corrected this where it still exits. Same reponse applies to all the 'word choice' or 'typographical' corrections are suggested by the reviewers; we simply note 'corrected' to reflect our response.
Ayed Ghaleb Ahed Salama	Chapter 6	3	84	3	84	overgarzign of pastures and mineral and fossil fuel extraction are causes for degradation not results as earlier points. Shoeld be deleted.	Corrected.
Li Changxiao	Chapter 6	3	90	3	90	Change "contunuation" to "continuation"	Corrected.
Wang Yujie	Chapter 6	3	90	3	90	"contunuation"-->continuation	Corrected.
Ayed Ghaleb Ahed Salama	Chapter 6	3	95	3	95	after the poor put coma.	Deleted this contextual text, which should appear in Ch 1 or in Ch 4.
Wang Yujie	Chapter 6	3	95	3	95	Delete "As a result"	Corrected.
Ayed Ghaleb Ahed Salama	Chapter 6	3	96	3	96	after the non-poor add coma.	Corrected.
Royal C. Gardner	Chapter 6	3	116	3	119	For clarity purposes, the policy instruments should be described and categorized consistently throughout the chapter. Compare how policy instruments are listed here (five types) with the six response types listed on page 8 with how policy mechanisms are described on page 35, lines 1346-1349.	Thank you for this valuable comment. We have revised the text here to align with the reminder of the document on policy instruments. The previous texts were deleted and replaced by new text to maintain consistency.
Wang Yujie	Chapter 6	4	124	4	124	nature's benefits to people in lines 137 & 227 and "nature's benefit to people" in lines 124,169,278,283 should be consistent	The text is ameded to maintain consistency. We have changed the previsous texts in line 124 to 'nature's benefit to people and it's contiribution to good quality of life', and also maintained the same terminology in other places.

Royal C. Gardner	Chapter 6	4	138	4	139	Is this objective covered in this chapter?	This objective has not been addressed in the earlier version (FOD) of the chapter draft. In the revised version, we have incorporated a specific sub-section to accommodate this objective with the section "Limits to land degradation and restoration responses".
Wang Yujie	Chapter 6	4	138	4	139	this sentence is confusing, please revise it.	Revised.
						Regarding the term "sustainable use": Explain why you are using this term and not the term "sustainable management". On page 13 (lines 438-439) you indicate both terms: "Sustainable land use planning and management choices" (page 13, lines 438-439). Insert a definition of both terms in order to ensure that they are probably not being used interchangeably.	We have made substantive changes in the SOD. In doing so, we tried to maintain consistency in the use of term "sustainable use" vs "sustainable management" to avoid confusion. Here we now use 'sustainable management'. Definition of these terms will be provided as a part of the final report in the appendix section through the help of secretariat.
Royal C. Gardner	Chapter 6	6	185	6	186	Note that the avoid-mitigate-compensate approach (hierarchy) is endorsed in Ramsar Resolution XI.9.	Figure 6.2 is being re-worked during TAM. The comment on mitigation hierarchy is incorporated in sub-section 6.2.1 and 6.4.2.3 in the FGD, with references to Kate et al. 2004 and Orr et al. 2017.
						This section could be greatly enriched by considering the LDN conceptual framework being developed by the UNCCD Science and Policy Interface (UNCCD SPI. 2016. LDN Conceptual Framework (forthcoming)) . By doing that the response framework proposed would be fully aligned with what is being ready applied in many countries that joined the Land Degradation Neutrality Target Setting Programme being run by the Global Mechanism of the UNCCD. More information on LDN can be found in the already cited references and http://www.global-mechanism.org/content/supporting-countries-set-land-degradation-neutrality-targets	The figure (6.2) has been revised accommodating the comments, which appears in sub-section 6.2.1. In addition, the LDN conceptual framework has been adopted (avoid, reduce, reverse), where relevant, to discuss the responses in the chapter. The importance of following mitigation hierarchy (in fact response hierarchy) to achieve no-net land degradation is included in the FGD in sub-section 6.2.1 and 6.4.2.2 with a cross-reference to sub-section in earlier chapter (2.3.3.3) where mitigation hierarchy is discussed in more detail.
Victor M. Castillo (UNCCD)	Chapter 6	7	188	9	273	Regarding the term "mitigation hierarchy": Also refer to section "2.3.3.3 Ecological compensation and biodiversity offsets" of this assessment, where "mitigation hierarchy" is discussed in more detail.	Done
German government	Chapter 6	7	196	7	198	delete "the"	
Wang Yujie	Chapter 6	7	199	7	199		
						Fig 6.2 has rehabilitation defined as where restoration falls short of neutrality, but the diagram shows it achieving neutrality. The 'compensation' step of the mitigation hierarchy is omitted, as is the concept of net gain. So this is a missed opportunity to frame restoration in a way that contributes to a net improvement in the state of the natural environment.	Figure 6.2 has been revised addressing this comment by incorporating LDN and beyond. The sub-section 6.2.1 in the FGD has both the figure and accompanying text to clarify the concept of compensation or offset (in text or figure).
Ian Dickie	Chapter 6	7	201				
						Figure 6.2: the vertical title is "land degradation", "+" means land degradation is getting worse and "-" on the other hand could mean land degradation is getting controlled. This is opposite with the order of the mitigation hierarchy as listed in the last column (from top to bottom: rehabilitation, restoration, mitigation and prevention.)	This comment is addressed in sub-section 6.2.1 with a better caption for clarity in the FGD.
Wang Yujie	Chapter 6	7	201	7	203		
						Figure 6.2: It is not clear how this represents neutrality. Is the y axis time? Is neutrality achieved when the activities on the far RHS have been implemented over the area represented initially by the far LHS? Prevention is not a relevant strategy for land that is already degraded.	Figure 6.2 has been revised addressing this comment by incorporating LDN and additional objectives as potential scenarios. The sub-section 6.2.1 in the FGD has both the figure and accompanying text to clarify the concept of compensation or offset (in text or figure).
Hamid Custovic (SPI)	Chapter 6	7	203				
						Expand the caption of Figure 6.2 by including the information that "land degradation neutrality" is a target (15.3) of the SDGs	Figure 6.2 has been revised addressing this comment by incorporating LDN and beyond. The sub-section 6.2.1 in the FGD has both the figure and accompanying text to clarify the concept of compensation or offset (in text or figure).
German government	Chapter 6	7	203	7	203		
						Do "preventive responses" only include "conservation measures"? What about prevention through the introduction of sustainable land [use/management]?	Conservation measures as well as sustainable land management practices. We need to add this in the final version.
German government	Chapter 6	7	205	7	206		
						In section 1.1.2 of this assessment definitions of key terms of this assessment are listed. Please have the definition of "mitigation responses" included in this section in chapter 1 in order to support alignment of definitions of all key terms used throughout the 8 chapters of the assessment.	Agree. Definition of 'mitigation response' would be included in the glossary of the report with the help of secretariat. To maintain consistency among various IPBES reports, we will use the IPBES's definition for this phrase.
German government	Chapter 6	7	206	7	209		
						Check the wording of the definitions of "restoration" and "rehabilitation" with the wording provided in section 1.1.2 and in decision Decision 3/1, Annex VIII.	The definition of rehabilitation is already in the SOD (Ch 1, sub-section 1.2.4) and is consistent with the Glossary definition.
German government	Chapter 6	7	209	7	214		
						How does monitoring and use of scientific research fit into this? Need to know the best approaches to most effectively achieve desired outcomes.	The monitoring of restoration activities and use of scientific research is addressed in sub-section 6.4.2.6 (Adaptive management) in the FGD comprehensively.
Sally Valdes	Chapter 6	8	228	8	234		

Wang Yujie	Chapter 6	8	236	8	236	proximate cases -->proximate causes	Done
Wang Yujie	Chapter 6	8	237	8	237	add "responses" after the word "legal"	Done
Kun Tian	Chapter 6	8	246	8	247	There should be add organic agriculture or clearly indicate this item	Done
Ayed Ghaleb Ahed Salama	Chapter 6	9	281	10	318	The activities were mentioned but its efficacy not evaluated. Need to be re-written.	In the SOD we have tried to be specific on evaluating the response effectiveness base on a set of criteria established in section 6.2.2. We have re-written the text which is now sits in section 6.3.2.2.
Li Changxiao	Chapter 6	9	284	9	284	Suggest to change "6.3.1.1 Deforestation and clearing of native vegetation" to "Responses to deforestation and clearing of native vegetation".	We changed by Responses to Forest Land Degradation
Wang Yujie	Chapter 6	9	284	9	284	Its would be better to change the title into "Responses to deforestation and clearing of native vegetation"	We changed by Responses to Forest Land Degradation
Victor M. Castillo (UNCCD)	Chapter 6	9	284	10	318	This section is missing the energy demand pressures on forest and other ecosystems that provide firewood and charcoal. Renewable energy provision is another solution that should be included in this section.	The comment on management practices to reduce and avoid tree harvesting to charcoal and firewood is addressed in the sub-section 6.3.1.2 (avoiding deforestation, forest fragmentation and forest degradation) in the FGD.
Penny van Oosterzee	Chapter 6	9	292	9	295	Need references for this sentence.	It has been cited properly in the text.
German government	Chapter 6	9	297	9	299	The insinuated "sustainable intensification" in this last sentence is very questionable. It is totally true and correct that fragile ecosystems and biodiversity hotspots should be saved from agricultural expansion. But this cannot be an argument to go beyond the limits of sustainability in other areas.	Sustainable intensification is defined and included in the glossary. The text addressing sustainable intensification is incorporated in the sub-section 6.3.1.1 on "integrated crop, livestock and forestry sub-swction n the FGD.
German government	Chapter 6	9	303	9	303	What is acutally meant by the term "softer use"? Please expand on this by providing a few examples for "softer use".	We changed the wording and used "Sustainable Land Management"
Hamid Custovic (SPI)	Chapter 6	9	311			Not necessarily - this could be challenged as a technical barrier to trade in the WTO.	The comment is addressed in this section as well as in economic instrument sub-section of the FGD. Materials added as "soy moratorium was effective to stop deforestation after 2006 (Macedo, M. N. et al. (2012); it decoupled the deforestation and soy production in the southern Amazon during the late 2000s (Kastens et al. (2017)). Please, note that in the section on halting deforestation, we wrote one sentence to each successful strategy, but the impact of soya moratorim has also been discussed in "Economic instrument" section.
German government	Chapter 6	10	315	10	318	REDD+ is not designed to support developed countries to compensate their emssions by financing forest protection in developing countries. The design of REDD+ is to compensate developing countries for reducing their emissions from deforestation and forest degradation plus enhancing their carbon stocks inside forests. There is no market mechanism along the lines of the CDM so far is in place.	We have amended the text as suggested.
Kun Tian	Chapter 6	10	319			Under 3.1 efficacy of responses to direct drivers a paragraph about the wetland reclamation should be mentioned	In the SOD, we have allocated a separate section for wetland (6.3.2.5). The section 6.3.2.3 is about responses to rangeland degradation, moreover watlands are already mentioned in this section as well.
Ayed Ghaleb Ahed Salama	Chapter 6	10	321	10	321	Instead of grassland species it should be vegetation composition in general.	Changed as suggested.
Hamid Custovic (SPI)	Chapter 6	10	328		330	Reword. " rotation of pastures, controlled burning, fencing and pasture development" are not h" implemented through replanting, intercropping and removal of woody plants".	Text was re-written.
Hamid Custovic (SPI)	Chapter 6		331		333	Are you intending to imply that sustainable grazing management can only be achieved through tribal and community coordination?	It is a possibility but not the main-stream and was clarified in the text.
Kun Tian	Chapter 6	10	334	10	344	There a substitute measure for herdsman should be mentioned to avoid overgrazing	Clarified
Ayed Ghaleb Ahed Salama	Chapter 6	10	336	10	337	add soil and water conseravtion	Added
Victor M. Castillo (UNCCD)	Chapter 6	10	346	10	347	Consider addressing the potential of community-based management and the challenges of weak grazing land governance regimes and restricted mobility of pastoralists. This section is very much geared towards private ranchers in the developed world	Added
Gerardo Ojeda	Chapter 6	10	351	10	351	I suggest to add "and appropriate geostatistical analysis" in order to give relevance to actual effort to develop geostatistical tools to generate predicting maps.	Added
Victor M. Castillo (UNCCD)	Chapter 6	11	364	11	367	Consider adding silvopastoral practices	Added
Hamid Custovic (SPI)	Chapter 6	11	366			What is meant by "sown pature rundown" and how is that a beneficial response?	The text is revised by avoiding the jargon. The revised text is in section 6.3.1.3 of the FGD where "sown pasture rundown" is replaced by decline in pasture productivity.

Lim Li Ching	Chapter 6	11	375	13	440	The focus of this section seems to be on crop intensification, rather than sustainability. It is surprising that no mention is made of the numerous agroecological and organic agriculture interventions (whose various practices include soil conservation, prevention of erosion, increasing organic matter, etc.) around the world that have played a part in preventing, halting and even reversing land degradation.	This section has gone the most intense revision in the SOD. In the revised version we cover a broad range of topics, including conservation agriculture, agroforestry and policy options (section 6.3.2.1).
Wang Yujie	Chapter 6	12	375	12	440	Irrigation and fertilization could be added in this section as one of the responses to land degradation.	We have substantially revised this section in the SOD, the comment is now considered or less relevant in the newer version of the text (see section 6.3.2.1).
Markus Giger	Chapter 6	11	375	11		In this chapter I think more emphasis should be put on nutrient management. The desintegration of mixed livestock- crop production systems leads to the disruption of nutrient cycles and exarcabates nutrient to be disposed and not an essential element with an agricultural production system.	We have substantially revised this section in the SOD, the comment is now considered or less relevant in the newer version of the text (see section 6.3.2.1).
Markus Giger	Chapter 6	11	375	11		In this section: More emphasis should be given on the multitude of SLM techniques for croplands. There are good techniques available and farmers are constantly improving those! Unfortunately these technologies are not applied everywhere. So a more generic discussion of these technologies and the role of farmers in implementing those would be necessary before mentioning specific examples such as terracing or those technologies mentioned in Box 2. Ref to: www.wocat.net.	This section has gone the most intense revision in the SOD. In the revised version we cover a broad range of topics, including conservation agriculture, agroforestry and policy options (section 6.3.2.1).
Kun Tian	Chapter 6	11	380	11	380	If 24 EU member states include UK?	This section has gone the most intense revision in the SOD. In the revised version we cover a broad range of topics, including conservation agriculture, agroforestry and policy options (section 6.3.2.1).
Hamid Custovic (SPI)	Chapter 6		392			Substitute acceptance with infiltration.	This section has gone the most intense revision in the SOD. In the revised version we cover a broad range of topics, including conservation agriculture, agroforestry and policy options (section 6.3.2.1).
Hamid Custovic (SPI)	Chapter 6		397			? reference? do you mean the impact of cultivation?	This section has gone the most intense revision in the SOD. In the revised version we cover a broad range of topics, including conservation agriculture, agroforestry and policy options (section 6.3.2.1)
Hamid Custovic (SPI)	Chapter 6		403			Reword "laws for farmers"	This section has gone the most intense revision in the SOD. In the revised version we cover a broad range of topics, including conservation agriculture, agroforestry and policy options (section 6.3.2.1)
Li Changxiao	Chapter 6	12	405	12	405	Change "ais" to "is" Acknowledge that there are few jurisdictions/contexts where licenses are required to plant a crop (but another exception is the leased grazing lands in Western NSW, where cropping is restricted)	This section has gone the most intense revision in the SOD. In the revised version we cover a broad range of topics, including conservation agriculture, agroforestry and policy options (section 6.3.2.1)
Hamid Custovic (SPI)	Chapter 6	12	405				The text in this section is extensively revised for SOD, so the comment is no longer pertinent.
Hamid Custovic (SPI)	Chapter 6		413			Reword " forest, pasture, and arable farmland were practiced".	This section has gone the most intense revision in the SOD. In the revised version we cover a broad range of topics, including conservation agriculture, agroforestry and policy options (section 6.3.2.1)
Hamid Custovic (SPI)	Chapter 6		414		415	Reword - point not clear.	This section has gone the most intense revision in the SOD. In the revised version we cover a broad range of topics, including conservation agriculture, agroforestry and policy options (section 6.3.2.1)
German government	Chapter 6	12	414	12	416	Regarding "Box 1: European Case Study": Please expand on this case study by including examples of the <i>"degradation of the natural, social and economic capital"</i> .	This case study is not included in the revised SOD because it seems as a particular research output, rather we have covered better cases now (we think so) in the SOD.
Meredith Root-Bernstein	Chapter 6		416		418	Please give an example of how it is possible to keep cash flow local and raise prices for the producer. What mechanisms do this? How are they put in place?	This section has gone the most intense revision in the SOD. In the revised version we cover a broad range of topics, including conservation agriculture, agroforestry and policy options (section 6.3.2.1)
German government	Chapter 6	12	416	12	418	Regarding "Box 1: European Case Study": Provide a success story, how/where <i>"keeping most of the capital and cash flow in the area and raising prices for the producer of the local crops"</i> was achieved and prevented further degradation.	This section has gone the most intense revision in the SOD. In the revised version we cover a broad range of topics, including conservation agriculture, agroforestry and policy options (section 6.3.2.1)
D. Pennock (ITPS)	Chapter 6	12	420	12	422	Source for USDA estimates of productive and non-productive land?	Revised.
Hamid Custovic (SPI)	Chapter 6		420		421	This seems unlikely. Provide a reference.	Revised.
Hamid Custovic (SPI)	Chapter 6		431			Box 2: Row arrangement: this is contour farming, which is listed above.	The text in this section is extensively revised for SOD, so the comment is no longer pertinent.

Victor M. Castillo (UNCCD)	Chapter 6	12	431	12	432	USDA conservation practices: Consider also the juxtaposition with permaculture practices, See Ingram, J., Maye, D., Kirwan, J., Curry, N., & Kubinakova, K. (2014). Learning in the permaculture community of practice in England: an analysis of the relationship between core practices and boundary processes. The Journal of Agricultural Education and Extension, 20(3), 275-290. Also see Mollison, B., & Holmgren, D. (1978). Permaculture. Lesmurdie Progress Association.	This comment is addressed in sub section 6.3.1.1. "agricultural management responses to degradation pressures" in the FGD.
Victor M. Castillo (UNCCD)	Chapter 6	13	437	13	440	Consider adding another paragraph on Integrated Landscape Management . See Reed et al 2016. Integrated landscape approaches to managing social and environmental issues in the tropics: learning from the past to guide the future. Global Change Biology (2016) 22, 2540–2554, doi: 10.1111/gcb.13284	This comment has been addressed in the sub sections 6.3.1.1 and 6.4.3 [integrated landscape approach] in the FGD.
John Parrotta	Chapter 6	13	441	13	464	Please see my comments related to planted forests in Chapter 3 (page 24 and 43). Also, I would recommend that the authors consider the very good work done by the International Tropical Timber Organizations over the years, specifically the ITTO guidelines for the sustainable management of natural tropical forests (2015) and the ITTO/IUCN guidelines for the conservation and sustainable use of biodiversity in tropical timber production forests (2009), and the ITTO guidelines for the restoration, management and rehabilitation of degraded and secondary tropical forests (2002) - these and related products based on the best available scientific and technical advice are available at: http://www.itto.int/policypapers_guidelines/	In the revised SOD, we have devoted a separate section for planted forests (section 6.3.2.2, lines 631-645). The work done by ITTO has been cited in this section.
Victor M. Castillo (UNCCD)	Chapter 6	13	441	13	464	Consider addressing the issues of afforestation where historically there were no forests and the implications for biodiversity and water services	This comment is being addressed in the FGD in sub-section 6.3.1.2 'responses to forest degradation'.
Sally Valdes	Chapter 6	13	442	13	443	Seems to dismiss concerns about planted forests. May need to dig deeper. Are there ways that planted forests can provide more ecosystem benefits depending on what is planted, how these forests are managed and how harvested? The data cited here seems to be outdated. There should be more current literature available.	In the revised SOD, we have devoted a separate section for planted forests (section 6.3.2.2, lines 631-645).
German government	Chapter 6	13	452	13	454		Updated.
Meredith Root-Bernstein	Chapter 6		453			I am surprised by how little up to date data there is on actual market share of certified forest products. Perhaps this would be a good place to discuss the challenges on the supply and demand sides for such products.	Our objective is to assess the evidence base. We have discussed certified forest products as an indicator of sustainable forest management leading to land improvement, but not discussed the supply and demand side of certified products. The text has been updated based on (FAO Global assessment of forest Resources, 2015) and a critical analyses from 2005 (Auld et al. 2008) within sub-section 6.4.2.4 (Certification).
Victor M. Castillo (UNCCD)	Chapter 6	13	453	13	453	"certified products represented less than 1% of commercialized wood products in 2001": Consider updating this number at least in the final draft	In the revised SOD, an elaborated section is devoted to climate change specific responses to LDR (section 6.3.3.4).
Ayed Ghaleb Ahed Salama	Chapter 6	12	461	21	761	climate change though its complex interaction may cause a severe land degradation therefore an integrated approach	Responses to fire regime change in included in the relevant sections of the FGD, for example forest fire related responses in sub-section 6.3.2.2 'Responses to forest land degradation'.
Penny van Oosterzee	Chapter 6	13	465			There is a large body of literature on this in Australia including a cooperative research centre http://www.bnhcrc.com.au/ .	
Hamid Custovic (SPI)	Chapter 6	13	465			Section 6.3.1.5: This section is an inadequate discussion of the management of fire. As for the other sections it should cover management and governance approaches to addressing the issue. It is challenging, but there is literature on the topic, relating to fire management in forestry, in savannas, at urban interface, even on the fires in Indonesia (eg Mayer, J., 2006. Transboundary perspectives on managing Indonesia's fires. The Journal of Environment & Development, 15(2), pp.202-223.).	The comment has been addressed in the FGD by discussing fire management in different sections that include sub-sections 6.3.1.3 on "responses to rangeland degradation" and 6.3.1.2 on "Responses to forest land degradation".
Victor M. Castillo (UNCCD)	Chapter 6	14	478	14	479	This is a strange statement to lead with. Consider putting this in a global context: In 1935, the US Forest Service developed the "10 a.m." policy that stipulated that a fire was to be contained and controlled by 10 a.m. following the report of a fire, or, failing that goal, controlled by 10 a.m. the next day, and so on.	The comment has been addressed in the FGD and the revised texts on fire are now included in sub-sections 6.3.1.3 "rangeland degradation" and 6.3.1.2 "forest land degradation".
Kun Tian	Chapter 6	14	487	16	571	There should be establish the intrinsic link between invasive species and land degradation or move to 6.3.3.7	Drivers of degradation and their impacts are addressed in chapters 3, 4 and 5. This chapter is about responses and the sub-section 6.3.2.1 in the FGD discusses responses related to IAS management.
Wang Yujie	Chapter 6	14	487	14	487	It is better to change the title "Responses to invasive species"	Updated.

Hamid Custovic (SPI)	Chapter 6	14	487			Section 6.3.1.6: Mention the growing problem of herbicide resistance in agricultural weeds.	It has been discussed in section 6.3.3.1, specific mention of 'herbicide resistance by agricultural weeds' needs to be incorporated in the next revision.
Victor M. Castillo (UNCCD)	Chapter 6	14	491	14	491	The inclusion of a section on institutional arrangements under 6.3.1.6 is not consistent with the structure followed when addressing the response to the other direct drivers	Updated and revised. All sections on responses follow similar structure.
Royal C. Gardner	Chapter 6	14	493	14	495	It's questionable whether CBD Article 8 "binds" signatories as all the obligations are caveated with the phrase: "as far as possible and as appropriate".	This text has not changed as yet. Will be reviewed during TAM in July to make necessary changes.
Wang Yujie	Chapter 6	15	538	15	538	Change "undertake" to "have undertaken"	Corrected.
Peter Onorato	Chapter 6	15	540	15	548	The second component to prevention is interception (Boy and Witt, 2013). This would include the establishment of environmental biosecurity departments to carry out activities such as search and seizure procedures at points of entry as well as quarantine measures to block or restrict invader access. An example of such a body is the Australian Quarantine and Inspection Service (AQIS). Purported to have more stringent regulations than the WTO, the AQIS was a government agency responsible for ensuring that no new species with the potential to become invasive entered Australia. The agency has since been absorbed into the Department of Agriculture and Water Resources, which now oversees the function. Prevention is clearly the most effective response to maintain or enhance nature's benefit to people and nature's contribution to good quality of life.	Corrected as suggested.
Wang Yujie	Chapter 6	15	544	15	544	Change "was" to "is" Perhaps an example of eradication would be useful (it does happen occasionally). Islands can offer the best chance of success. Rats, for example, were eliminated on this island in Alaska with great benefits to wildlife. (See https://www.yahoo.com/news/former-rat-island-alaska-whole-look-184307806.html?ref=gs)	Changed.
Sally Valdes	Chapter 6	15	560	15	560	Examples are necessary to illustrate the "program".	The text has been amended in the FGD to reflect the comment in sub-section 6.3.2.1. Eradication is presented as an option with an emphasis that it is only feasible under certain conditions, such as small islands and/or where invaders have not become established.
Wang Yujie	Chapter 6	16	568	16	569		Examples provided.
Hamid Custovic (SPI)	Chapter 6	16	572			Repetition of earlier chapters.	During the second author meeting, we discussed with chapters 3 and 4 to delineate the chapter scope, leading to chapter 6 focuses narrowly on responses only. The section on land abandonment is no more part of this chapter.
Victor M. Castillo (UNCCD)	Chapter 6	16	572	16	609	Considering introducing the concept of natural regeneration and farmer managed natural regeneration; also the opportunities for restoring landscape connectivity in abandoned agricultural lands throughout the world and particularly in USA, Australia and the former Soviet republics. http://scholar.google.com/scholar?hl=en&as_sdt=0,5&q=abandoned+agricultural+land	During the second author meeting, we discussed with chapters 3 and 4 to delineate the chapter scope, leading to chapter 6 focuses narrowly on responses only. The section on land abandonment is no more part of this chapter.
German government	Chapter 6	16	573	16	576	Even though there may not be a single definition of the terms "land abandonment" or "abandoned land", please ensure that the way both terms are used in chapter 6 aligns with the use of both terms in the other chapters of this assessment.	During the second author meeting, we discussed with chapters 3 and 4 to delineate the chapter scope, leading to chapter 6 focuses narrowly on responses only. The section on land abandonment is no more part of this chapter.
Meredith Root-Bernstein	Chapter 6		585		589	I agree with this statement but would like to point out that it contradicts statements about land abandonment in Chapter 3, where land abandonment is classed as a direct driver of land degradation without much qualification.	During the second author meeting, we discussed with chapters 3 and 4 to delineate the chapter scope, leading to chapter 6 focuses narrowly on responses only. The section on land abandonment is no more part of this chapter.
Penny van Oosterzee	Chapter 6	16	586	15	589	This is garbled with no references and not much logic.	During the second author meeting, we discussed with chapters 3 and 4 to delineate the chapter scope, leading to chapter 6 focuses narrowly on responses only. The section on land abandonment is no more part of this chapter.
Ayed Ghaleb Ahed Salama	Chapter 6	16	593	16	593	and severity of land degradation.	During the second author meeting, we discussed with chapters 3 and 4 to delineate the chapter scope, leading to chapter 6 focuses narrowly on responses only. The section on land abandonment is no more part of this chapter.
Wang Yujie	Chapter 6	16	594	16	594	effects should be "affects"	During the second author meeting, we discussed with chapters 3 and 4 to delineate the chapter scope, leading to chapter 6 focuses narrowly on responses only. The section on land abandonment is no more part of this chapter.

Ayed Ghaleb Ahed Salama	Chapter 6	17	610	17	610	In many cases the change in fauna and flora is irreversible, and it is not discussed here. Consider addressing direct responses associated with technologies of extraction that require design, planning and ultimately ecological restoration (Alcoa in the Jarrah Forest)	This comment has been addressed in the sub-section 6.3.2.2 'mineral extraction' in the FGD. Irreversibility is a higher level discussion addressed under 'novel ecosystems' in chapter 2.
Victor M. Castillo (UNCCD)	Chapter 6	17	610	17	654		This comment has been addressed in the FGD under the sub-section 6.3.2.2 'mineral extraction'.
Comerma (ITPS)	Chapter 6	17	611		613	I do not see why the EIA, EMP and land zoning are restricted to Mining extraction. It could be applied to many other degradation processes as deforestation, cropland. Land abandonment, invasive species, etc	The chapter has gone structural change during the SAM in Bonn, as a result several of the processes discussed in FOD are no more relevant as a separate section. They have been integrated along with drivers and case studies. This section is no more relevant as such in the revised draft SOD.
Royal C. Gardner	Chapter 6	17	633	17	634	It would be good to note Ramsar's guidance on EIAs: http://www.ramsar.org/sites/default/files/documents/pdf/lib/hbk4-16.pdf	The comment has been incorporated in the FGD under the sub-section 6.3.1.5. 'responses to wetland degradation'.
Wang Yujie	Chapter 6	17	640	17	640	At the higher level should be "At a higher level"	The chapter has gone structural change during the SAM in Bonn, as a result several of the processes discussed in FOD are no more relevant as a separate section. They have been integrated along with drivers and case studies. This section is no more relevant as such in the revised draft SOD.
Victor M. Castillo (UNCCD)	Chapter 6	18	655	20	742	This section should also consider the elements of the UNCCD SPI LDN conceptual framework in particular those related to the deploy a mechanism for neutrality. This mechanism intends to help land use decision-makers counterbalance "losses" due to land degradation by equivalent gains	This comment has been addressed in several sub-sections in the FGD, in Fig 6.2 (incorporating LDN scenario as one of the several scenarios), and also in sub-sections 6.4.2.2 (right based instruments and customary norms) and 6.4.2.3 (economic and financial instruments).
German government	Chapter 6	18	655	20	742	With reference to section 6.3.1.9 titled "Development processes": The discussion in this chapter should not be focused only on "soil" as a synonym for "land", but take advantage of the structure of the environmental factors in the endangered landscape. In addition, the position that compensation measures in the EU dealing inadequately with the soil protection, is wrong. The relevant landscape management measures must include all the functions of the ecosystem. This includes the natural soil functions too.	The chapter has gone structural change during the SAM in Bonn, as a result several of the processes discussed in FOD are no more relevant as a separate section. They have been integrated along with drivers and case studies. This section is no more relevant as such in the revised draft SOD.
Wang Yujie	Chapter 6	19	687	19	687	Please revise this section.	corrected
Wang Yujie	Chapter 6	19	688	19	688	Change "taken in account" to "taken into account".	corrected
Ayed Ghaleb Ahed Salama	Chapter 6	19	700	19	700	Change "is a driver that is....." to "are drivers that are". add: and natural gardens.	corrected
Hamid Custovic (SPI)	Chapter 6	19	701		702	Urban agriculture is not new - consider all the allotments in European countries.	The chapter has gone structural change during the SAM in Bonn, as a result several of the processes discussed in FOD are no more relevant as a separate section. They have been integrated along with drivers and case studies. This section is no more relevant as such in the revised draft SOD.
Comerma (ITPS)	Chapter 6	19	718		724	A typical compensation plan in the oil industry in Venezuela, is the afforestation of a selected area by the Ministry of Environment in compensation for the deforestation of corridors and other operational areas for oil production or transportation. Also in Venezuela deforestation of natural forest require 4 times the afforestation in the same area of certain species	In the FGD afforestation is being discussed in sub-sections 6.3.1.2 'responses to forest degradation' and also in 6.3.2.3 'responses to soil quality changes'. The example of Venezuela is not explicitly mentioned though.
Wang Yujie	Chapter 6	20	733	20	733	Change "in managed ecosystems" to "in managing ecosystems". Delet "to" in "and to provide guidance.....".	Corrected
Wang Yujie	Chapter 6	20	738	20	738	the impacts should be "the impacts of"	Corrected
Wang Yujie	Chapter 6	20	738	20	738	Change "the impacts the loss" to "the impacts of the loss"	Corrected
Wang Yujie	Chapter 6	20	740	20	740	Change "Some barriers remain" to "Some barriers are remained"	Corrected
Lim Li Ching	Chapter 6	20	743	21	761	Agroecology is a key climate adaptation strategy for agriculture and farmers, that builds resilience. It's practices also mitigate climate change. See Altieri et al. (2015). Agroecology and the design of climate change-resilient farming systems. Agronomy for Sustainable Development, 35(3): 869-890. Also UNCTAD (2013) Wake up before it is too late: Make agriculture truly sustainable now for food security in a changing climate Trade and Environment Review 2013.	Agroecology is specifically discussed in the FGD under the sub-sections 6.3.1.1 'responses to cropland degradation' and 6.3.2.3 'responses to soil quality changes'.

German government	Chapter 6	20	753	21	761	Further response options are: The maintenance, enlargement and better management of the world's networks of nature protection areas - to enable species to build source populations (e.g. for migration under climate change) - to stop the loss of biodiversity by habitat degradation and other threats exacerbated by climate change - to enable stenoeocious species to establish new populations (e.g. after migration in regions with newly suitable climate conditions).	This comment has been addressed in the FGD by considering protected areas as a degradation response in sub-section 6.4.2.5 "protected areas".
Sarah Dalrymple	Chapter 6	20	754	21	761	I would be happy to help with the strategies to adapt to climate change as a multiple stressor specifically with respect to conservation translocations such as assisted migration and colonisation. Ecological replacement is also a pertinent strategy here as lost species can be functionally replaced in order to fulfill an ecological role that serves the wider community by restoring processes and diversity. I recently co-authored the IUCN Guidelines for Conservation Translocations and we recognised that there is a congruence of species-focussed response and community-level restoration practices when conservationists take proper account of the dynamic nature of the environment which they seek to protect.	This comment has not been directly and adequately addressed in the FGD. However, the FGD has given prominence to 'climate change adaption planning' and 'protected areas' as additional responses to LDR.
Victor M. Castillo (UNCCD)	Chapter 6	20	754	21	760	Consider land-based adaptation measures. See for instance Sietz&Vand Dijk 2015 Global Environm. Change 33: 131-141 and UNCCD,2015: Pivotal soil carbon (http://www.unccd.int/Lists/SiteDocumentLibrary/Publications/2015_PolicyBrief_SPI_ENG.pdf) Land matters for climate: reducing the gap and approaching the target (http://www.unccd.int/Lists/SiteDocumentLibrary/Publications/2015Nov_Land_matters_For_Climate_ENG.pdf	Given the restructuring of the sections, we focused more on climate and coastal land degradation. Suggested literature needs to be looked at again during TAM.
Royal C. Gardner	Chapter 6	20	755	20	757	For an EbA/DRR discussion see https://www.cbd.int/doc/meetings/sbstta/sbstta-20/information/sbstta-20-inf-02-en.pdf	Given the restructuring of the sections, we focused more on climate and coastal land degradation. Suggested literature needs to be looked at again during TAM.
Penny van Oosterzee	Chapter 6	21	761			CCAFS (Climate Change, Agriculture and Food Security) is a good reference source. https://ccafs.cgiar.org/	Given the restructuring of the sections, we focused more on climate and coastal land degradation. Suggested literature needs to be looked at again during TAM.
Li Changxiao	Chapter 6	21	765	21	774	It is better to mention here the newest number of the world's total population and its increase rate at present. For the sentence of Consistent with population growth, forest was converted to agricultural land, where a word of wetland should be added as wetland and forest were converted to agricultural land	Noted. But we do not discuss population/demography alone as a factor in the revised chapter structure.
Kun Tian	Chapter 6	21	772	21	772	Change "have been" to "has been".	Wetland has given a significant emphasis in the revised chapter (section 6.3.2.5). Noted
Wang Yujie	Chapter 6	21	778	21	778		Noted. We discuss migration as a part of indirect drivers in section 6.3.4, but not seperately in the new chapter structure.
Meredith Root-Bernstein	Chapter 6		781		783	which is an example of land abandonment, right? Just so we are all on the same page. I expected this section (6.3.2.2) to have some discussion of market failure/tragedy of commons. As in the first para of box 8.4.3. in Ch8	
Ian Dickie	Chapter 6	22	806	23	853	The IPES-Food (2016) report likewise identified export orientation in international trade as one of the 'lock-ins' of industrialised agriculture, which has impacts resulting in land degradation.	This is now included/addressed in the SOD section 6.4.1.3 and 6.4.1.4.
Lim Li Ching	Chapter 6	22	807	22	825		This text is now moved into Ch 3 in the SOD as a way of discussing the driver of LD.
Ian Dickie	Chapter 6	22	807			Para starting line 807. I agree with the critique of trade liberalisation, but how are its effects distinguished from population growth?	Agree, but it seems like a research question and didn't addressed as such. However, the role of population growth, in particular migration, is now discussed in Ch 3. We have modified the section titles in SOD. There was a major structural change in the draft chapter. We discuss the responses to LDR in urban areas seperately in section 6.3.2.4.
Ayed Ghaleb Ahed Salama	Chapter 6	22	826	23	853	I suggest to be under a new title: urbanization and industrialazation.	

John Parrotta	Chapter 6	23	854	24	899	<p>It seems strange that the role of traditional knowledge, practices and innovation is not discussed in this section. Nor the potential for collaboration between formal science and traditional knowledge systems. To me this is a glaring omission. As noted above (for Chapter 2, page 32), I would recommend: Parrotta, J.A. & Trosper, R.L. (Eds.) 2012. Traditional Forest-Related Knowledge: Sustaining Communities, Ecosystems and Biocultural Diversity. World Forest Series vol. 12. Dordrecht: Springer, 621 p. The Introduction (Ch. 1) and Conclusions (Ch. 12) of this book are particularly relevant to this discussion. These may be downloaded at: http://www.treesearch.fs.fed.us/pubs/47879 and http://www.treesearch.fs.fed.us/pubs/47880, respectively.</p>	This comment has been well taken in developing the SOD. The role of ILK has been highlighted in several sections in the SOD (6.3.2.2, 6.4.1.4, 6.4.2)
Ayed Ghaleb Ahed Salama	Chapter 6	23	855	23	874	the text is very shallow and did not address the subject directly and clearly.	This section is no more relevant in the revised chapter structure.
Penny van Oosterzee	Chapter 6	23	855	23	861	This paragraph needs to be references. The reference at the end is dated.	This section is no more relevant in the revised chapter structure.
German government	Chapter 6	23	875	23	876	<p><i>Negative impacts on ecosystems and human well-being have, at times, resulted from new technologies, and thus careful assessment is needed prior to their introduction.</i></p> <p>The sentence is too unprecise and requires an example to demonstrate how technology negatively influences land degradation. Furthermore, the term "careful assessment" should be described in more detail (e.g. Who should assess the technology with which methodology?)</p>	This section is no more relevant in the revised chapter structure. We have devoted considerable attention to institutional response and now discussed in three sections in the SOD (6.4.3-6.4.5).
Ayed Ghaleb Ahed Salama	Chapter 6	24	901	24	933	this subject need to be addressed more deeply and clearly.	Corrected.
Wang Yujie	Chapter 6	24	906	24	906	advocated by (Hardin, 1968) there are some words missing here	
Meredith Root-Bernstein	Chapter 6		934			<p>I think this is a good section. One small issue that I think is worth mentioning, however, is that there can be some controversy around whether people in developed countries who are part of market economies (e.g. farmers, sport hunters) can be said to have TEK or be part of biocultural relationships. In my own work, e.g. Root-Bernstein & Frascaroli 2016, Barca et al. 2016, we argue that yes, but I know many people would not consider such groups to have TEK or "genuine" cultural traditions related to land management, arguing that modernity has erased and perverted this heritage. So there can be an argument about whether the information in this section applies only to indigenous peoples in underdeveloped countries, based on arguments about what is traditional and how knowledge develops.</p>	This comment has not been addressed in the same way as suggested by the reviewer, partly the reason is TEK or cultural factors are relevant to LDR irrespective of country's economic standing.
Wang Yujie	Chapter 6	26	1000	26	1000	Participatory approach should be "Participatory approachs"	Corrected.
Josu G Alday	Chapter 6	26	1008	29	1008	In this section resilience is used but is meaning is empty. "Promoting resilience" but here you should explain resilience to what. Because, resilience per se has not a clear meaning. For example in line 1531 it is clearly explained "resilience to climate change"	The word resilience has been used with specific meaning and context to avoid confusions in the FGD. It has been covered in sub-sections 6.3.1.3 (Box 6.4), 6.3.1.4 (urban land degradation), 6.4.2.6 (climate change adaptation) and 6.4.3 (integrated landscape approach).
Wang Yujie	Chapter 6	26	1009	26	1027	Please define "fragmentation".	Noted. Need to address during TAM.
Comerma (ITPS)	Chapter 6	26	1023			Consideraytion should be given whether afforestation is done with native species or with introduced ones. Biodiversity will be veryb different	Noted. Needs to address during TAM.
Victor M. Castillo (UNCCD)	Chapter 6	27	1028	27	1029	<p>Consider starting with the UNCCD's well accepted definition of desertification: "desertification" means land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities (Convention Text, Article 1)</p>	We agree with the comment but disagree to present the definition in our chapter because 'desertification' has appeared in earlier chapters (including Ch 4) where it has been discribed and discussed.

Victor M. Castillo (UNCCD)	Chapter 6	27	1037	27	1037	should read “SDG target 15.3”. Consider give defintion of LDN:Land degradation neutrality is defined as “a state whereby the amount and quality of land resources necessary to support ecosystem functions and services and enhance food security remain stable or increase within specified temporal and spatial scales and ecosystems”. The aspirational goal of LDN is to sustain the natural capital of the land and associated land-based ecosystem services, and thus support “the future prosperity and security of humankind”. Land degradation neutrality will underpin achievement of multiple Sustainable Development Goals related to food security, environmental protection and sustainable use of natural resources (UNCCD 2015 Decision3/COP.12, UNCCD SPI. 2016. LDN Conceptual Framework (forthcoming)	We have devoted a separate section on LND and SDG Tartets. Target 15.3 is explicitly discussed in SOD section 6.5.3.
Victor M. Castillo (UNCCD)	Chapter 6	27	1043	27	1043	should read “the LDN target” . More information on LDN can be found in the already cited references and http://www.global-mechanism.org/content/supporting-countries-set-land-degradation-neutrality-targets It would be useful to add that UNCCD parties are committed to collect and share best practices for SLM and that these practices are stored in the primary recommended database for SLM practices of UNCCD. https://qcat.wocat.net/en/wocat/	We have incorporated LDN target in the SOD (section 6.5.3) as per response to earlier comment.
Markus Giger	Chapter 6	27	1052	27			We have substantially revised this section of FOD with change in title and focus as well. In the SOD we discuss 'responses to soil quality changes' in section 6.3.3.2.
Lim Li Ching	Chapter 6	27	1066	28	1098	In the agroecosystem, agroecological practices such as terracing, wind breaks etc. prevent soil erosion at the farm level.	In the revised structure of the chapter, we focused on specific land use types such as crop land, forest land and the degredation processes in those land, including soil erosion. We have dealt with responses to land degradation processes there in. No seperate section on soil erosion is developed in the revised SOD.
D. Pennock (ITPS)	Chapter 6	27	1066	29	1134	There is a high degree of overlap with the material presented in section 6.3.1.3 earlier in this chapter.	In the revised structure of the chapter, we focused on specific land use types and drivers to avoid overlaps with earlier sections.
Hamid Custovic (SPI)	Chapter 6	28	1077			Explain "shallow mass wasting".	Revised.
D. Pennock (ITPS)	Chapter 6	28	1083	28	1083	The use of geotextiles is very expensive and is not a practical wide-spread measure.	Revised.
Wang Yujie	Chapter 6	28	1085	28	1085	to erosion should be "to control erosion"	Corrected.
Comerma (ITPS)	Chapter 6	28	1100			There are many good examples of good conservation progrmmes in the Andes region. In Venezuela for about 10 years a subsidie was established paying local farmers to remove stones in their fields, piling them in contour terraces, and changing to more productive and cash crops.Soil conservation and finnancial results were excellent. The program included technical assitance, social organizations .and comunla iirigation systems	Noted. In the revised structure of the chapter, we focused on specific land use types such as crop land, forest land and the degredation processes in those land, including soil erosion. We have dealt with responses to land degradation processes there in. No seperate section on soil erosion is developed in the revised SOD.
Li Changxiao	Chapter 6	29	1128	29	1131	Did the ecological rehabilitation initiative decrease the regional water yield? What was the reason? The author(s) should be more specific.	Noted. No more relevant due to change in focus and chapter structure.
D. Pennock (ITPS)	Chapter 6	29	1135	30	1171	This section is ridiculously short given the scope of the section (all soil degradation except for erosion). It focuses on a few locally relevant papers, but lacks any general validity.	We have expanded this section with a different section heading "responses to soil quality changes" in the SOD (section 6.3.3.2). We have revised this section extensively with a new section heading 'responses to soil quality changes' in the SOD folloing the chapter structure decided in SAM, the specific comment is no more applicable.
Hamid Custovic (SPI)	Chapter 6	29	1149		1150	Incomplete description. Substitute: planting of deep-rooted crop, pasture and fodder plants; strategic planting of trees.	We have revised this section extensively with a new section heading 'responses to soil quality changes' in the SOD folloing the chapter structure decided in SAM, the specific comment is no more applicable.
German government	Chapter 6	29	1153	29	1159	Diffuse pollution also caused by mineral fertilizers (Cd, U) and organic fertilizers like sewage sludge, organic manure etc. Therefore please consider these aspects in your assessment.	We have revised this section extensively with a new section heading 'responses to soil quality changes' in the SOD folloing the chapter structure decided in SAM, the specific comment is no more applicable.
Wang Yujie	Chapter 6	29	1157	31	1157	This sentence is confusing, please revise it.	We have revised this section extensively with a new section heading 'responses to soil quality changes' in the SOD folloing the chapter structure decided in SAM, the specific comment is no more applicable.
Hamid Custovic (SPI)	Chapter 6	29	1160			Clarify that this refers to acidification due to acid rain.	We have revised this section extensively with a new section heading 'responses to soil quality changes' in the SOD folloing the chapter structure decided in SAM, the specific comment is no more applicable.
Hamid Custovic (SPI)	Chapter 6	30	1164			Clarify: applying lime to raise the pH...	We have revised this section extensively with a new section heading 'responses to soil quality changes' in the SOD folloing the chapter structure decided in SAM, the specific comment is no more applicable.
Ayed Ghaleb Ahed Salama	Chapter 6	30	1172	30	1172	change the title of this section into pressure on water resources.	This comment is addressed in FGD in sub-section 6.3.2.4 "Responses to water quality changes".

						There is an urgent need for the development of tools to incorporate impacts of hydrologic regime variability and change into urbanization policies, programs and projects, especially as 66% of the world's population is estimated to live in urban areas by 2050 (UN special report 2015). Urban areas need to invest in basin conservation and restore high ecosystem degradation.	We now have devoted a separate section on "urban land degradation" in the SOD (section 6.3.2.4).
Marina Rosales Benites de Francia	Chapter 6	31	1215	31	1218		
Wang Yujie	Chapter 6	31	1219	31	1219	Change use to using	
Ayed Ghaleb Ahed Salama	Chapter 6	31	1226	31	1226	change to: change in vegetation biomass in known to have	This entire section isn't in the current SOD. I've added it to 6.3.3.2 since it covers part of the biological aspects of soil quality changes
Hamid Custovic (SPI)	Chapter 6	31	1226			Reword. Biomass production is a direct measure of land productivity.	changed
Hamid Custovic (SPI)	Chapter 6		1232			Clarify what you mean by "nominal" in this context.	clarified
Wang Yujie	Chapter 6	31	1237	31	1237	This sentence is confusing, please revise it.	Revised.
Wang Yujie	Chapter 6	31	1241	31	1241	add "," after "In this perspective"	added
Wang Yujie	Chapter 6	32	1260	32	1260	change "difference" to "differences"	changed
Ayed Ghaleb Ahed Salama	Chapter 6	32	1261	32	1261	replace land biomass by vegetation biomass	changed
Kun Tian	Chapter 6	32	1267	32	1273	There should include welland loss	Thank you. This has been addressed in the SOD. Wetland conversion has been included as a separate section.
Mark Schauer	Chapter 6	49	1280			in core areas and creation of low-intensification areas vs moderate intensification in total area	Noted and expanded
						Hypothetically this could apply to tetanus , botulism, lysteria, melioidosis, but is there any published evidence? The suppression of soil-borne plant diseases is a more well-known benefit of soil biodiversity.	Noted and clarified
Hamid Custovic (SPI)	Chapter 6	32	1289				
Hamid Custovic (SPI)	Chapter 6	32	1292		1296	Reword to explain how this example relates to land degradation.	Noted and added 'land use transition and degradation' in the sentence.
						In a recent report, 22% of the systematically reviewed Emerging Infectious Diseases (EIDs) in Australia are associated with Land Use and Climate Change (LUCC). Most occur frequently where natural landscapes have been replaced with agriculture, plantations, livestock or urban development. Historical clustering of vector-borne, zoonotic and environmental disease emergence also follows major periods of extensive land clearing (McFarlane, Sleight and McMichael, 2013). Thus it is extremely important for biodiversity conservation that protected areas are resilient to a range of potential future perturbations, especially those related to the spread of diseases (de Vos et al., 2016). It is crucial that extensive land clearing be avoided and that pockets of natural vegetation be left standing for conservation of natural microbes that are beneficial to human health or for suppressing disease causing soil organisms.	In the FGD, protected area and landscape approach as response mechanisms are discussed in sub-sections 6.4.2.5 and 6.4.3, respectively. So the comment has been partly addressed in these sections.
Peter Onorato	Chapter 6	32	1297	33	1306	Figure 6.4: this figure is not clear enough for readers, a figure with higher resolution should be used to replace this one	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
Wang Yujie	Chapter 6	33	1312	33	1314		Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
German government	Chapter 6	33	1315			The quality of Figure 6.4 is low. It layout/presentation needs to be improved.	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
Wang Yujie	Chapter 6	33	1319	33	1319	it has should be "they have"	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
						Box 5: It would be good to add to the description of WOCAT that this network maintains the primary recommended database for SLM practices of UNCCD. https://qcat.wocat.net/en/wocat/	The comment is not addressed directly by describing the WOCAT because of the revision of the chapter structure, focusing on the responses rather than description of institutions or databases as such. However, WOCAT technologies have been widely cited and discussed in the chapter particularly in sub-sections 6.2.1 (response typology and options) and 6.3.1.3 (Responses to range land degradation).
Markus Giger	Chapter 6	33	1324	34			Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
Hamid Custovic (SPI)	Chapter 6	33	1324			Box 5: Reword "DESIRE as a FP6 project" and provide reference.	
						Para 3 on p 34 of Box 5Reword, point not clear "The developed indicators for monitoring, then, will be used for the effectiveness of the responses to attain the reference values."	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
Hamid Custovic (SPI)	Chapter 6	34	1324	Box 5			Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
Hamid Custovic (SPI)	Chapter 6		1324	Box 5		Provide references for all tools.	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
						Box 5: Consider including some of the most relevant initiatives taken. A comprehensive list of those that as DESIRE was funded by EU Research Framework could be found at http://www.desire-his.eu/index.php/en/recent-european-research . Please note ICONA is not a project but the acronym stands for the organism that implement LUCDEME	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
Victor M. Castillo (UNCCD)	Chapter 6		1324				

Ayed Ghaleb Ahed Salama	Chapter 6	36	1362	36	1362	under this section also the drawback of working is this level is that it is so complicated and in developing countries they lack the skills required to apply and work, in addition they usually related the approval of the activities by unrelated subjects such as gender.	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
Penny van Oosterzee	Chapter 6	36	1380	36	1382	This is one of the few times a recommendation is made in any of the chapters. There should be much more of it, otherwise the chapters are merely descriptive and forgettable.	This comment is not fully addressed in the FGD because of the scope of the chapter. Recommendations are not presented as such but provided rather the synthetic form as policy-relevant suggestions. Additionally, sub-section 6.5 discusses about 'knowledge gaps and research needs'.
Royal C. Gardner	Chapter 6	36	1383	36	1389	The Ramsar Convention should be listed here.	Ramsar convention has given prominence in the FGD under the sub-section 6.3.1.5 "Responses to wetland degradation".
Kun Tian	Chapter 6	36	1385	36	1386	There should also include institution of TNC (The Nature Conservancy)	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
						The name is incorrect, and this is an outdated description of the GEF. Substitute: This description is outdated and has the name written incorrectly. Please substitute: The Global Environment Facility (GEF): The GEF was established on the eve of the 1992 Rio Earth Summit, to help tackle our planet's most pressing environmental problems. The GEF serves as financial mechanism for environmental conventions including the three Rio conventions: Convention on Biological Diversity (CBD); United Nations Framework Convention on Climate Change (UNFCCC); UN Convention to Combat Desertification (UNCCD). The GEF has provided \$14.5 billion in grants and mobilized \$75.4 billion in additional financing for almost 4,000 projects. The GEF has become an international partnership of 183 countries, international institutions, civil society organizations, and the private sector, to address global environmental issues. The GEF funds projects on biodiversity, climate change, international waters, land degradation, chemicals and waste, and sustainable management of forests. It also works on several multi-focal and cross-cutting issues and programs relevant to land management, such as the Integrated Approach Pilot Programs on "Fostering Fostering Sustainability and Resilience for Food Security in Sub-Saharan Africa", and "Taking Deforestation out of Global Commodity Supply Chains".	
Hamid Custovic (SPI)	Chapter 6	36	1399		1409		In the FGD, chapter sub-sections are no more based on institution or program. However, relevant programs and initiatives [with correct names] have been incorporated in the FGD where they appear.
Hamid Custovic (SPI)	Chapter 6	37	1410		1427	We assume KMST will deal with this!	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
Victor M. Castillo (UNCCD)	Chapter 6	27	1410	27	1410	should read "voluntary approach"	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
Wang Yujie	Chapter 6	37	1416	37	1419	It is necessary to illustrate "Land development and consolidation" in details with some documents.	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
Victor M. Castillo (UNCCD)	Chapter 6	27	1432	27	1432	should read "SDGs include several targets"	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
German government	Chapter 6	38	1438			Framework for Monitoring and Reporting on SDG Target 15.3: The quality of this figure is extremely poor. It was impossible to decipher the content of the blue boxes. Please ensure a high quality resolution.	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
Victor M. Castillo (UNCCD)	Chapter 6	39	1464	39	1506	Consider using other references, this entire section is a cut and paste of Reed and Stringer 2015 which is not even in the reference list. In fact, this book is used extensively throughout the chapter.	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
Penny van Oosterzee	Chapter 6	39	1479			Reference used a lot but not listed.	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM.
Wang Yujie	Chapter 6	39	1483	39	1483	the figure should be replaced by one with higher resolution	Noted. The section as such in no more applicable in SOD due to substantive restructuring of the Chapter content following SAM. For figure - will revisit during TAM whether to reconsider, as such it is not included in the revised SOD.
Wang Yujie	Chapter 6	39	1493	39	1493	delete ", " between "compatible with" and "policy processes at local"	Corrected.
German government	Chapter 6	40	1507	41	1566	Chapter 6.4.1.2: The following statement in lines 1510-1512 is at first correct and to be welcomed: "...the most used legal and regulatory mechanism to address land use related issues is the regional planning at national or regional (master plan) and local (zoning map) levels according to the principle of subsidiarity...". However, please expand this section by considering the instruments of the environmental assessment (SEA, EIA) and the mitigation hierarchy, which we have asked you to include in section 2.2.1.7.	Included. Reworded the text with more explication about the aim of different tools (prevention ; mitigation, ; restoration ; rehabilitation) ; included more references about EIA and SEA .

Royal C. Gardner	Chapter 6	40	1508	41	1566	This section is difficult to follow and is unclear. For example, lines 1556-1557 state that public authorities in fact become responsible for rehabilitating sites. Is this in the context of contaminated sites (as would be suggested by digging into the Veenman reference) or does it apply more broadly, to include rehabilitation of or compensation for development sites? If the latter, in the US at least it is the private entity that is responsible.	Clarified by rewording the text.
Wang Yujie	Chapter 6	40	1511	40	1511	Change "is" to "are"	Corrected.
Royal C. Gardner	Chapter 6	40	1519	40	1519	What is meant by international legislation? How is local planning "often subject" to such international legislation?	Clarity (rewording the text) + international legislation is international law (hard or soft law ; depends of the level of State integration in the regional or international organisation ; existence of a supranational course etc.)
Royal C. Gardner	Chapter 6	40	1520	40	1525	In some (many?) jurisdictions, eminent domain is not limited to coastal areas.	Clarified.
Royal C. Gardner	Chapter 6	42	1602	42	1603	For an example of international policy regarding stakeholder participation in decision making, see http://www.ramsar.org/sites/default/files/documents/pdf/lib/hbk4-07.pdf	This section has been revised extensively and the comment is taken in board while drafting the new text. Given the changes in structure of SOD and section heading, some of the earlier comments (FOD) seem less relevant for SOD.
German government	Chapter 6	42	1615	42	1615	Insert the following word (bold) in the sentence: "... have significance in halting land degradation and supporting sustainable land management." Here is another categorization of policy instruments that differs from the others noted earlier. Strongly recommend that the authors choose one approach (while perhaps acknowledging others).	Noted.
Royal C. Gardner	Chapter 6	42	1621	42	1626		Noted. We try to be consistent in policy instruments through out the text in SOD. We have listed the instruments within economic and financial categories as identified by different sources. Then discuss the responses specific to main instruments in practice (section 6.4.1.3) in the SOD.
Hamid Custovic (SPI)	Chapter 6	43	1644		1662	Discussed in previous chapters, but this is the correct chapter for it.	
Peter Onorato	Chapter 6	43	1652	43	1662	Biodiversity offset is a rather new strategy, with pioneering programs like the US Compensatory Wetland Mitigation and Australia's BioBanking (Madsen et al., 2010), and only few examples exists in developing countries (Vatn, 2015). Payments for ecosystem services (PES) consists of direct financial transfers to land users for the adoption of land-use practices that are environmentally sustainable to general public (Muradian, Corbera, Pascual, Kosoy, & May, 2010; Wegner, 2016). The payment may be made directly by ecosystem service beneficiaries such as private firms and networks of households, although schemes run by state agencies and NGOs on behalf of their constituencies are predominant (Engle, 2008; Milder, Scherr, & Bracer, 2010). PES is also extensively used as an instrument to implement the UN-REDD Programme on Reducing Emissions from Deforestation and Forest Degradation in developing countries (Duchelle et al., 2014; Lin, Pattanayak, Sills, & Sunderlin, 2012). It would be more accurate to refer to the US program as " the US Clean Water Act compensatory mitigation program" as it is broader than wetlands and includes streams and other aquatic resources.	Offsets and PES are discussed extensively in the FGD within sub-section 6.4.2.3 "financial and economic instruments". Comments on suggested changes are addressed appropriately in this sub-section.
Royal C. Gardner	Chapter 6	43	1653	43	1653		US Clean Water Act as a response to polilcy response to water quality degradation is included in sub-section 6.3.1.5 "Responses to wetland degradation" in the FGD.
Victor M. Castillo (UNCCD)	Chapter 6	43	1654	43	1654	separate paragraph for PES	Noted. This section has been extensively revised during the preparation of SOD. It is no longer applicable. PES has been dealt under economic/financial instrument as also part of the social/cultural responses.
Royal C. Gardner	Chapter 6	43	1670	43	1672	As noted in my comments in Chapter 2, taxes are not a form of cap and trade. Under the former, the cost is fixed, but the environmental benefit varies. Under the latter, the cost is variable, but the environmental benefit is fixed. Thus I don't think it's accurate to say that taxes will necessarily result in achieving the same overall environmental targets as cap and trade or a regulatory approach.	Noted. This section has been extensively revised during the preparation of SOD. It is no longer applicable.
German government	Chapter 6	44	1691	44	1691	Regarding the term "crowding-out effect": Insert a reference to section "2.2.1.7 Environmental policy instruments ..." (page 24, lines 970-978), where the term "crowding-out effect" is explained in more detail.	Noted. This section has been extensively revised during the preparation of SOD. It is no longer applicable.
Hamid Custovic (SPI)	Chapter 6	44	1692			Discussed in previous chapters, but this is the correct chapter for it.	Noted.
Wang Yujie	Chapter 6	44	1727	44	1727	delete "for costs"	Noted.
Wang Yujie	Chapter 6	44	1728	44	1728	Farmers should be " Farmers' "	Noted.
John Parrotta	Chapter 6	45	1749	46	1819	As above, where is the discussion of traditional knowledge? And of integration of knowledge systems?	Noted. We have included ITK in several sections in the SOD as noted for earlier comment on this topic.

Wang Yujie	Chapter 6	45	1753	45	1753	continuing should be "are continuing"	Corrected.
						See UNEP (2016) Unlocking the Sustainable Potential of Land Resources: Evaluation Systems, Strategies and Tools. A Report of the Working Group on Land and Soils of the International Resource Panel. Herrick, J.E., O. Arnalds, B. Bestelmeyer, S. Bringer, G. Han, M.V. Johnson, D. Kimiti, Yihe Lu, L. Montanarella, W. Pengue, G. Toth, J. Tukahirwa, M. Velayutham, L. Zhang.	
Victor M. Castillo (UNCCD)	Chapter 6	45	1768	45	1779	http://www.unccd.int/Lists/SiteDocumentLibrary/Publications/2016_UNEP_Land_Resources_full_report.pdf	The reference mentioned by the reviewer has been incorporated in the FGD in sub-section 6.4.4 "responses based on research and technology development".
LI Qingfeng	Chapter 6	61	1776	69	2075	Section 4.4 case studies the cases selected in the Chapter are not "examples", but look like some summaries of the statuses.	Noted. Not really they are examples of some successful or unsuccessful approaches of land degradation and restoration practices. We have revised some of the case studies to make them as examples.
Hamid Custovic (SPI)	Chapter 6	45	1776		1779	Maybe we can say something about LDN monitoring (GEO?) in next round?	Noted. We have allocated some discussions on LDN in section 6.5.3 in the SOD.
						introduce a new paragraph here: "Over recent years there has been significant progress towards the development of a conceptual framework for monitoring the progress of the UNCCD in addressing DLDD. In decision 22/COP.11, the UNCCD COP established a monitoring and evaluation approach consisting of: (i) progress indicators; (ii) a conceptual framework that allows the integration of indicators; and (iii) mechanisms for data sourcing and management at the national/local level. The UNCCD progress indicators include three biophysical indicators: land cover, land productivity and carbon stocks*. This approach using these three indicators is now being proposed in the context of the SDG indicator framework and specifically the global indicator 15.3.1 on "Proportion of land that is degraded over total land area". (to be updated for the final draft of this chapter). See also comments below on chapter 8 page 18	
						*UNCCD. 2013. Decision 22/COP.11. Advice on how best to measure progress on strategic objectives 1, 2 and 3 of The Strategy. ICCD/COP(11)/23/Add.1, 20 September 2013. United Nations Convention to Combat Desertification (UNCCD), Bonn.	
Victor M. Castillo (UNCCD)	Chapter 6	46	1806	46	1806	Also see recent example from India for a practical application of remote sensing data http://www.isro.gov.in/desertification-and-land-degradation-atlas-released	The reference and relevant texts mentioned by the reviewer has been incorporated in the FGD in sub-section 6.4.4 "responses based on research and technology development".
Victor M. Castillo (UNCCD)	Chapter 6	46	1814	46	1819	this paragraph appears to be out of place	Corrected.
Ayed Ghaleb Ahed Salama	Chapter 6	46	1820	46	1820	under this section also authors should add the efficiency of the attempts for capacity building and if it is reached its goal or not.	This section has been revised extensively, in the newer version we discuss this aspect in section 6.4.3?
Kun Tian	Chapter 6	46	1821	47	1843	There should be more examples to emphasize the needs for capacity building in land resource management	Noted. Responses to capacity building has been discussed in section 6.4.5 in the SOD.
Wang Yujie	Chapter 6	47	1828	47	1828	Change "support" to "supported"	Corrected.
						consider a reference to peer to peer learning which has been critical for large scale rehabilitation in West Africa, for example http://intpolicydigest.org/2015/10/11/delivering-sustainable-development-goals-in-africa/	This has not been explicitly dealt with, need to revisit during TAM to discuss whether to include.
Victor M. Castillo (UNCCD)	Chapter 6	47	1840	47	1843	Perhaps include some indication of what is meant with 'spaces'?	noted.
Rob J.J. Hendriks	Chapter 6	47	1842	47	1842		GAPS - this has not been extensively dealt in SOD. It should be revisited and included in the final text after TAM. The specific comment needs to be taken on board as well.
Hamid Custovic (SPI)	Chapter 6	47	1845		1853	It would be appropriate to acknowledge that this could happen in conjunction with LDN implementation.	Noted. Needs to be considered during TAM.
Hamid Custovic (SPI)	Chapter 6	47	1868			Explain "non-uniform criteria".	
Li Changxiao	Chapter 6	48	1872	48	1872	Change "develop" to "developing" so as to keep the same writing style	Noted. Needs to be considered during TAM.
Kun Tian	Chapter 6	48	1877	48	1879	There should add water related agency	Noted.
Hamid Custovic (SPI)	Chapter 6	48	1883			Can a country have too much land and soil resources? Too much for what?	Noted.
Rob J.J. Hendriks	Chapter 6	48	1888	49	1956	The title of para 6.4.3. does not match the content very well.	Noted. This section has been extensively revised during the preparation of SOD. It is no longer applicable.
Ayed Ghaleb Ahed Salama	Chapter 6	48	1888	49	1956	I suggest deleting this section because nothing was added from it.	Noted. This section has been extensively revised during the preparation of SOD. It is no longer applicable.
Kun Tian	Chapter 6	48	1899	48	1899	cleanly---clearly?	Noted. This section has been extensively revised during the preparation of SOD. It is no longer applicable.

Wang Yujie	Chapter 6	48	1909	48	1909	depend should be depends	Noted. This section has been extensively revised during the preparation of SOD. It is no longer applicable.
Hamid Custovic (SPI)	Chapter 6	48	1911	49	1917	It is not clear how these are "projects": they are a list of activities and management practices.	Noted. This section has been extensively revised during the preparation of SOD. It is no longer applicable.
Hamid Custovic (SPI)	Chapter 6	48	1911	49	1945	These categories of responses are not distinct alternatives eg policy may be devised that uses an economic instrument to incentivise what you have called projects. Incomplete sentence	Noted. This section has been extensively revised during the preparation of SOD. It is no longer applicable. Corrected.
Wang Yujie	Chapter 6	50	1960	60	1961		
Marina Rosales Benites de Franco	Chapter 6	50	1962	50	1963	Government failures also occurs from the lack of well-defined property rights over the resources and property land titles to access finance mechanisms.	Agree. We have addressed the issue of property rights elaborately in section 6.4.1.3 and 6.4.1.4 in SOD.
Wang Yujie	Chapter 6	50	1963	50	1963	Change "accours from" to "accours in"	Corrected.
Meredith Root-Bernstein	Chapter 6	50	1970			I like the range and detail of these case studies. They are much better than the ones given in Chapter 1.	Thank you.
Hamid Custovic (SPI)	Chapter 6	50	1970			6.4.4.2 These clear examples are very helpful.	Thank you.
Wang Yujie	Chapter 6	50	1976	50	1976	the sentence is confusing, please revise it.	Revised.
Wang Yujie	Chapter 6	50	1990	50	1990	Change "focused in" to "focused on"	Corrected.
Wang Yujie	Chapter 6	51	2004	51	2004	It would be better to change the title into "case study #2". The Rehabilitation of a Degraded Watershed: A Case Study from China's Loess Plateau	Corrected.
Wang Yujie	Chapter 6	51	2015	51	2015	change "amongst" to among	Corrected.
Wang Yujie	Chapter 6	51	2016	51	2016	delete "than"	Corrected.
Wang Yujie	Chapter 6	52	2047	52	2047	Grammatically wrong sentence	Corrected.
Li Changxiao	Chapter 6	52	2055	53	2091	The "Case study #3" should be rephrased in terms of its poor description and statement in writing. The Figure 6.7 needs to be improved as well.	Text has been revised for this case study.
Wang Yujie	Chapter 6	52	2055	52	2055	is should be in	Noted
Wang Yujie	Chapter 6	53	2068	53	2069	the sentence is confusing, please revise it.	Noted
Li Changxiao	Chapter 6	53	2092	55	2172	The Figure 6.8 might also need to be improved. The 2015 (below) picture seems that the mountainous area degraded seriously than the 2006 (above) one, although there is more water storage in the reservoir.	Already revised, but needs to revisit during TAM.
Kun Tian	Chapter 6	53	2092	55	2172	There should emphasize how The Working for Water program related to land degradation in Case study #4,	Needs to revisit during TAM for connection.
Wang Yujie	Chapter 6	53	2096	53	2096	Attention to the format of citation	Noted
Wang Yujie	Chapter 6	53	2101	53	2101	Attention to the format of citation	Noted
Wang Yujie	Chapter 6	53	2107	53	2107	Attention to the format of citation	Noted
Wang Yujie	Chapter 6	53	2131	53	2131	Attention to the format of citation	Noted
Wang Yujie	Chapter 6	56	2194	56	2194	format of m3	Noted. This case study is not included in the SOD.
Wang Yujie	Chapter 6	56	2198	56	2198	revision of available and water that can be used water resources in the country, it's confusing	Noted. This case study is not included in the SOD.
Ayed Ghaleb Ahed Salama	Chapter 6	56	2217	58	2266	I suggest to delete this case because it is not related to the subject (land degradation)	Noted. Needs discussion during TAM whether to delete this case study as such it is still in SOD.
Li Changxiao	Chapter 6	56	2217	58	2266	The "Case study #6" was very poorly selected and documented. The facts and data (such as 80% of underground water undrinkable cited from the 'qq' news, and no coordination mechanisms between the two administrative ministries) were not completely true. Very honestly, we never take the 'qq' news as a scientific citation. I have to say this is not an adequate case study to be documented here, and suggest to take off. What about documenting a land degradation case study caused by the war(s) such as the "Agent Orange - Vietnam War" and US-led other wars? The war-caused land degradation has far-reaching aftermath and might be the worst one in the world.	Noted. Needs discussion during TAM whether to delete this case study as such it is still in SOD.
Kun Tian	Chapter 6	56	2217	57	2233	Please explain how water pollution related to land degradation?	Noted. This case study is not included in the SOD.
Wang Yujie	Chapter 6	57	2232	57	2232	Taihu lake, Chaohu lake and Dianchi lake are not the largest lakes in China	Noted. This case study is not included in the SOD.
Wang Yujie	Chapter 6	57	2243	57	2248	We don't think that the contents with regarding to the Environmental Protection and Water Resources Administration of China in Lines 243-2248 are consistent with the reality. We ask the authors to revise or delete them.	Noted. This case study is not included in the SOD.

Wang Yujie	Chapter 6	57	2257	57	2257	Figure 6.9: this figure is not clear enough In Figure 6.9, it is shown that local governments is getting benefits transferred from companies which pollutes environment. It's not in consistent with the reality, because assessment of environment is now included in the performance evaluation of local governments.	Noted. Needs dicussion during TAM whether to delete this case study as such it is still in SOD.
Wang Yujie	Chapter 6	57	2257	57	2258	format of m2	Noted. This case study is not included in the SOD.
Wang Yujie	Chapter 6	58	2302	58	2302	format of CACO3	Noted. This case study is not included in the SOD.
Wang Yujie	Chapter 6	58	2304	58	2304	format of CACO3	Noted. This case study is not included in the SOD.
Josu G Alday	Chapter 6	59	2333	59	2333	Figure, It is possible to include any dispersion measure for each bar?	Noted. This case study is not included in the SOD.