

Reviewer Name	Chapter	From Page	From Line	To Page	To Line	Comment	Response
Cameron Colebatch	general					<p>The documents are good summaries, but what are the implications of the documents? What are the authors seeking policy makers to do with them?</p> <p>Suggest that (at the least) a dot point summary of the 'Recommendations and policy options' be provided at the beginning of each chapter to make this more prominent. If appropriate, it may also be worth preparing a 'summary for policy makers' (SPM) for each document as well.</p>	Thank you for the suggestion. An Executive Summary has been added to the chapter during the revision, and a separate SPM has been made.
Li Qingfeng	general					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.	Thank you. The summary for policymakers may be a more widely accessible document.
Ludwig Kammesheid, IB	general					In some tropical countries in Asia the area designated to sustainable forestry ("forest reserves") exceeds the area under protection. Thus, the implementation of sustainable forest management systems in natural forests by applying FSC standards is essential for effective biodiversity conservation. In reference to conservation of nature it is of particular importance that these forest reserves are at least partly located in lowland areas where otherwise land has been already converted at large extent. The current assessment does not elaborate on this issue. Maybe you could include it in your further work.	Thank you. This is addressed in part in chapter 3 under protected area coverage and future trends and in chapter 6 under governance systems and policy options.
Ludwig Kammesheid, IB & Uta von Witsch	general					Other knowledge-forms such as indigenous and local knowledge are well included throughout the assessment. Maybe you could additionally include a specific sub-section (e.g. in chapter 1) on the current status and use of indigenous and lokal knowledge in the Asia Pacific region (e.g. to what extent does it contribute to the academic knowledge base?; perhaps include some case studies, if available).	Some ILK has been input in respective sections but it is difficult to have a regional overview.
Stefan Hotes	general					The way the IPBES conceptual framework is referenced in the text should be more stringent, and the IPBES guide on Assessments as well as the other IPBES deliverables including guides should be integrated more clearly. In electronic versions of the assessment, hyperlinks to these resources could be included.	Thank you. The formatting has been corrected.
Thomas Brooks (IUCN)	general					Congratulations to the authors for all their hard work in producing this FOD.	Thank you
Uta von Witsch	general					Please provide a degree of confidence for the main findings throughout the assessment as laid down in the 'Guide on the production and integration of assessments from and across all scales (IPBES deliverable 2a)' (see IPBES/4/INF/9, p. 60, Figure 4.1).	This has been included in the Executive Summary as per the common practice across assessments.
Uta von Witsch	general					A list of abbreviations and a glossary should be included for the whole assessment.	This has been done.
Uta von Witsch & Ludwig Kammesheid, IB	general					We highly appreciate the case studies provided and the regional examples chosen for the assessment. They loosen up the text, and make it more colorful and better comprehensible. Please ensure, though, that they are distributed evenly between all sub-regions throughout the assessment in order to better reflect the different sub-regions and their expertise. Some sub-regions (and/ or countries) seem a little under-represented at this stage. This especially holds true for the West Asian sub-region as well as some tropical countries with a particular high biodiversity such as the Philippines, Papua-New Guinea and countries in the subtropical and temperate zone of the Asia Pacific region like Iran and Mongolia.	Thank you. We have hopefully improved this in the revisions, but acknowledge the difficulty in ensuring even representation of all subregions due to lack of data or expert knowledge.

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Uta von Witsch & Ludwig Kammesheidt, IB & Stefan Hotes	general					Congratulations and thanks to all who contributed to this first draft version which can serve as a valuable baseline study. Aspects such as SDGs and the Aichi targets, which are of importance also for the global assessment, are explicitly addressed. We therefore believe that this reg. assessment will also be highly useful for the global assessment. Furthermore, the text is well balanced (not biased) and not policy prescriptive (indications are made in the comments below should this not be the case). These aspects are very much welcomed.	Thank you
Uta von Witsch & Stefan Hotes	general					An executive summary at the beginning of the assessment as well as short abstracts/ introductions at the beginning of each chapter would be welcomed. This would, to our opinion, improve the readability of the assessment and also the harmonization between chapters (see also next comment on this aspect). The same applies to the conclusions (especially the key findings and the policy options) which - where already included in the assessment - are very helpful and highly appreciated. Furthermore, it would be welcomed if all main findings within the abovementioned sections could be linked explicitly to the different respective sections of the assessment which they are referring to.	An Executive Summary has been added to the chapter following the common format across assessments.
Uta von Witsch & Stefan Hotes	general					It might be a good idea for the different chapter-teams to interact more closely. This could help to harmonize the chapters, to keep up the common thread, and to avoid redundancies and unnecessary repetitions.	Thank you for the suggestion. This has been done.
Uta von Witsch & Stefan Hotes	general					All regional assessments should follow the same definitions and (e.g.) classifications of ecosystem services. These aspects are important for the comparability of the results, especially since they all provide input for the IPBES global assessment (see also next comment on this aspect). Please ensure this is the case by cross checking with the other reg. assessments. Furthermore, sections on classifications and terminology of biomes and ecosystems should make better use of the more stringent ones already compiled for applied purposes e.g. in the case of wetlands (Ramsar Convention).	Co-chairs and CLAs have tried to ensure this through the internal review of drafts and sharing across assessments.
Uta von Witsch & Stefan Hotes	general					Sections addressing general aspects that are of (the same) importance to all reg. assessments - like e.g. "What is a value system" (section 2.2.1, p. 11, lines 425-436), "The concept of living in harmony with nature ..." (section 2.2.1.2, p. 11, lines 438-459) and "Factors affecting the change in value systems" (section 2.2.2.1, p. 13, line 557 to p. 15, line 628) - should be identical for all reg. assessments. This will ensure a common basis and is important for the comparability of the results. Please ensure this is the case by cross checking with the other reg. assessments. These general (and global) sections could furthermore be kept as short as necessary for their understanding within the reg. assessment. They seem a little over-emphasized at this stage. All in all, the assessment might focus more on the Asia-Pacific region.	Co-chairs and CLAs have tried to ensure this during the internal reviews, and also by incorporating into chapter 1 some introductory text which was standardised across all regional assessments.
Wang Changyong	general					Suggestion: discuss how to further collect data and information from most of Asia Pacific countries. For instance, increasing contributing authors, using questionnaire to collect key data (eg status and trend) at national level	For this assessment. both time and budget are insufficient to implement the reviewer's good suggestion.
Jacques Tassin	Chapter 4	0				General comment 1: The text involves many details but would need more structuration, instead of an endeavour of systematic completeness, and 2/ more hierarchization within each part (everything seems equal)	Thank you. We have hopefully improved this by restructuring and revising.
Jacques Tassin	Chapter 4	0				General comment 2: There is a strong need for more hierarchization of risks or effects within each part (everything seems equal)	Thank you. We have hopefully improved this by restructuring and revising.

Reviewer Name	Chapter	From Page	From Line	To Page	To Line	Comment	Response
Jacques Tassin	Chapter 4	0				General comment 4: There is a general lack of quantification	Thank you. We have taken this into account in the chapter revisions and complemented where possible.
Jacques Tassin	Chapter 4	0				General comment 5: There is a general lack on level of confidency	This has been added.
Jacques Tassin	Chapter 4	0				General comment 6: Please follow the requested edition format for citations	Thank you. The formatting has been corrected.
Jacques Tassin	Chapter 4	0				The causes and means are deeply described, bit in a very unbalanced wy if we consider the effects on biodiversity and ecosystem services, which are insufficiently described	Thank you. We have taken this into account in the chapter revisions and complemented where possible.
Jacques Tassin	Chapter 4	0				The trends are poorly described. The authors should provide the trends observed on the causes (drivers) and on their effects,	Thank you. We have taken this into account in the chapter revisions and complemented where possible.
Ludwig Kammesheidt, IB	Chapter 4	0				Low and middle income countries seem to be underrepresented in this chapter, except for India. Maybe you could include further expertise and examples from those countries in the chapter.	Thank you. We have taken this into account in the chapter revisions and complemented where possible.
Violaine Brochier	Chapter 4	0				Maybe it could be interesting to remind in this chapter that an important part of industrial production is concentrated in Asia. That's why industrial activities can have significant impacts, and more because of the lake of regulation in some countries.	Thank you. This has been incorporated.
Zhang Xiaoyun	Chapter 4	0				Too many quotations in this chapter make it seems not good at organized and logical. It's better to refine the article by using author's own language.	Thank you. This has been incorporated.
Penny van Oosterzee	Chapter 4	3	64	3	71	This first para can be deleted.	This has been done.
Zhang Xiaoyun	Chapter 4	3	96	3	96	analysis' could change to 'explore' or 'reveal'.	This has been done.
Uta von Witsch	Chapter 4	3	100	3	100	Headline 4.2 is missing in the table of contents.	This has been restructured.
Zhang Xiaoyun	Chapter 4	3	100	3	100	typesetting problem	This has been restructured.
Jacques Tassin	Chapter 4	3	102	3	108	Please define what is a direct driver, and what is an indirect driver	This is included in the glossary.
Penny van Oosterzee	Chapter 4	3	110	16	704	I assume this is consistent with the table of direct and indirect drivers in the Land Degradation theme Chapter 3 which I found very useful.	This is generally consistent (with some difference in scope).
Jacques Tassin	Chapter 4	3	110	16	705	1/ I recommend the authors to use their own dichotomy, separating natural and anhtopogenic drivers 2/ Vulcanic activities, land mass, earthquakes, tsunamis are all missing.	Thank you for the suggestion. Regarding the natural drivers, earthquake, tsunamis, they have been discussed in different ecosystems. Some drivers, such as war or local armed conflicts, lacked experts and/or evidence.
Penny van Oosterzee	Chapter 4	3	112	5	180	I wonder whether much of this section could be tabulated? Rows would include LULUCF, degradation, mining, fragmentation, urbanisation. Columns might be Countries, case studies, references.	Thank you for the suggestion. We have adopted this approach at the end the chapter.
Zhang Xiaoyun	Chapter 4	4	127	4	128	This sentence can be organized better.	This has been done.
Zhang Xiaoyun	Chapter 4	4	134	4	136	It's better to list the duration time of the changes.	This has been revised where possible.
L.G. Saw	Chapter 4	4	141	4	156	It would be good to include quarrying of limestone from limestone hills for cement manufacture. Limestone hills are particularly rich in endemic species of plants and animals (particularly snails)	Thank you. This has been incorporated.
Zhang Xiaoyun	Chapter 4	4	145	4	147	It seems not talking about the topic.	This has been revised.

Reviewer Name	Chapter	From Page	From Line	To Page	To Line	Comment	Response
Li Junqing	Chapter 4	4	148	4	152	What Said here does not accord with the fact that: Karakoram Pamir landscape, especially in Xinjiang, China, where the collecting radix Glycyrrhiza (Glycyrrhiza korshinskyi, G. inflata) has disturbed the fragile high-altitude 150 vegetation cover in a certain extent, but not destroyed.	This has been corrected.
Violaine Brochier	Chapter 4	4	158	5	164	Habitat fragmentation is not only a problem for birds and bats it is also a problem for other animals and also plants.	Thank you. Yes we agree - we also need data to be specific to the AP Region - but could not find examples at this point.
L.G. Saw	Chapter 4	4	161	4	161	Only Durio zibethinus (Durian) is bat pollinated the rest are not, Ficus - wasps, Terminalia catappa -likely insects, breadfruit - likely insects => Please make correction	Thank you, but the data/papers we have is for birds and bats.
L.G. Saw	Chapter 4	4	166	4	180	A good cover of fragmentation of habitats on aquatic systems but not enough on terrestrial systems => To include examples of impacts of fragmentation on terrestrial ecosystems on mammals, birds, insects and even plants	Thank you. We have rewritten this.
Penny van Oosterzee	Chapter 4	5	198	5	198	In marke contrast, today.....	The text has been revised and no longer uses the phrase.
Uta von Witsch	Chapter 4	5	198	5	200	Please include the year which the comparative (second) sentence refers to.	The text has been revised and no longer uses the sentence referred to.
Ludwig Kammesheidt, IB	Chapter 4	6	229	7	281	Some developments in the context of urbanization might also bear benefits for biodiversity conservation. For example, most of the urbanization in SE Asia will take place near the coastline where a certain development stage is already attained. This could ease the pressure on vegetation in the remote hinterland, particularly in mountainous areas (Borneo is a good example for this development). Please include and address this facet in the text.	Thank you for the suggestion. We would need the source of this information in order to incorporate it into the text.
Jacques Tassin	Chapter 4	6	247	7	281	This part suffers from a lack of structuration	Thank you. We have restructured and revised the text.
Zhang Xiaoyun	Chapter 4	6	256	6	256	Which region?	The text has been revised and no longer uses the phrase.
Zhang Xiaoyun	Chapter 4	7	273	7	273	Need an explain.	The text has been revised and no longer uses the phrase.
Zhang Xiaoyun	Chapter 4	7	285	7	293	This part could be deleted. All these problems have list below.	Thank you. We have rewritten this.
Ludwig Kammesheidt, IB	Chapter 4	7	295	8	319	You might also want to take a look at examples from Indonesia, which is a country with a long and diverse use-history of non-timber forest products (NTFP) (see CIFOR publications (Center for International Forestry Research) on the topic).	Thank you. We have rewritten this.
Uta von Witsch	Chapter 4	7	297	7	298	Please provide some examples for non-timber forest products (NTFPs).	This has been done.
L.G. Saw	Chapter 4	8	322	8	328	What is lacking is the impact of commercial logging. The source of where the wood products originate are provided but there is no discussion of the impact of such exploitations. Are they sustainable? How are they impacting the natural ecosystem services and impacts on native plant and animal survival. These are the major man made impacts on native forests, more so than the NTFP exploitation. => To include these elements in the review.	Thank you. We have rewritten this with the impacts in the latter section of the chapter.

Reviewer Name	Chapter	From Page	From Line	To Page	To Line	Comment	Response
Ludwig Kammesheidt, IB & Uta von Witsch	Chapter 4	8	330	8	331	Which countries exactly are you referring to by 'Eastern Asia'? The sub-regions within this reg. assessment are called 'South-East Asia' and 'North-East Asia'. Please ensure that you are using the same category of sub-regions throughout the assessment (see also comment in line 19). Furthermore, please ensure that you are including South-East Asian countries in this section since not just ..."Eastern Asia and other South Asian countries are net importers of natural resources and related commodities, including timber, ..." but also the once timber-rich Philippines is a net-timber importer since the 1990s. The same might happen to Malaysia and Indonesia in the near future, at least in regard to high quality timber.	Thank you. We have rewritten this.
Penny van Oosterzee	Chapter 4	8	340	8	340	should refer to the good sections in the Land Degradation theme.	This has been done.
Dr. Santosh Kumar Mishra	Chapter 4	8	346	8	354	After end of information given under (3) Overfishing (page 8, line 354) and before start of 4.2.1.4 Pollution (page 8, line 356), add following information: There is, thus, need for "sustainable fishing" (defined as "the practice where the fish population does not decline over time because of fishing practices"). It ensures that there will be populations of ocean and freshwater wildlife for the future. Aquatic environments are home to countless species of fish and invertebrates, most of which are consumed as food. Others are harvested for economic reasons, such as oysters that produce pearls used in jewelry. Seafood is respected all over the world, in many diverse cultures, as an important source of protein and healthy fats. For thousands of years, people have fished to feed families and local communities. One reason we should eat sustainable fish is because it is caught safely, and that the fish is good for us. There are ways to fish sustainably, allowing to enjoy seafood while ensuring that populations remain for the future. In many indigenous cultures, people have fished sustainably for thousands of years. Today's sustainable fishing practices reflect some lessons learned from these cultures. In the Philippines, the Tagbanua people have traditionally employed fishing practices that simultaneously harvest and maintain fish populations. They continue to follow these practices today. Tagbanuas fish for specific species only during certain times of the year, determined by tides and the moon, allowing fish stocks to replenish themselves. They set aside certain areas, such as coral reefs, as protected spots in which fishing is prohibited. When they do fish, these traditional fishers primarily use "hook-and-line methods", catching only what they need to feed themselves and their communities. Traditional Polynesian cultures of the South Pacific have also always relied on the ocean's resources. Their most common historical fishing practices were hook and line, spearfishing, and cast nets. Hooks constructed of bone, shell, or stone were designed to catch specific species. Fishers would also craft 2-meter (6-foot) spears. They would dive underwater or spear fish from above, again targeting specific animals. Cast nets were used by fishers working individually or in groups. The nets could be cast from shore or canoes, catching groups of fish. All of these methods targeted fish needed for fishers' families and local communities. Some of these sustainable fishing practices are still used today. Native Hawaiians practice cast-net fishing and spear fishing. Modern spear fishing is practiced all over the world, including in South America, Africa, Australia, and Asia. In many cases, spearguns are now used to propel the spear underwater. Spear fishing is a popular recreational activity in some areas of the United States, including Florida and Hawaii. This fishing method is considered sustainable because it targets one fish at a time and results in very little by catch. <b>Reference:</b> Mishra, Santosh Kumar (2015). Practices, Management and Interventions Required in Sustainable Fishing. Social Science Electronic Publishing, Inc, SSSRN, USA, <a href="http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2658021">http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2658021</a> . <b>Annotations:</b> I find the above information on sustainable fishing informative and relevant, as in a world where fish are being hunted by massive ships and new technology, it is more important than ever for people to eat more sustainably. The need for sustainable fishing is rather large, because we are slowly killing off all the edible fish in the ocean. In fact, scientists predict that by 2048, there will be no more edible fish in the ocean if rates continue like this.	Thank you. The suggestion has been considered while rewriting and in balance with the rest
Zhang Xiaoyun	Chapter 4	8	348	8	348	feed' or 'food'?	Thank you. This has been corrected.
Penny van Oosterzee	Chapter 4	8	351	8	354	This suddenly pops up in a section on overfishing without even a paragraph break. Perhaps it would be better as a good news box.	Thank you. We have restructured and revised the text.

Reviewer Name	Chapter	From Page	From Line	To Page	To Line	Comment	Response
Jacques Tassin	Chapter 4	8	356	10	447	Please detail more specifically please detail the impact and biodiversity and ecosystem services	Thank you. We have restructured and revised the text.
Penny van Oosterzee	Chapter 4	9	375	10	399	This overlaps the Land Degradation chapters and doesn't deal with specific APR issues, stats and case studies.	Thank you. We have rewritten this.
Violaine Brochier	Chapter 4	9	377	9	398	Maybe add industrial activities as a source of pollution into the soils. And especially because of a lake of regulation in some countries	Thank you. We have rewritten this.
Zhang Xiaoyun	Chapter 4	9	398	9	398	This table is not necessary.	This has been deleted.
Violaine Brochier	Chapter 4	9	398	9	399	In the table, we can also add Plastic pollution (microplastic) is considered as the new major pollution of the XXI century in aquatic environment but also in terrestrial environment. Fate of plastic fragments in environment, trophic network is worrying	This has been deleted.
Zhang Xiaoyun	Chapter 4	10	411	10	446	These two polutions are not at the save level with above.	Thank you. We have restructured and revised the text.
Uta von Witsch	Chapter 4	10	440	10	442	Please elaborate on the biodiversity benefits in indigenous forests resulting from the pest control of possum. What exactly are the biodiversity benefits?	We have restructured and revised the text, with an explanation earlier on.
Ludwig Kammesheid, IB	Chapter 4	10	448	13	599	Please include the water hyacinth ( <i>Eichhornia crassipes</i> ), one of the most invasive species worldwide, in this section on IAS. This hyacinth is a severe threat to the natural ecosystems of rivers and lakes in SE Asia.	Thank you for the suggestion. We have preferred not to list individual species beyond a few examples, due to limitation of length.
Uta von Witsch	Chapter 4	11	450	11	453	Please ensure that the definition for IAS used in this assessment is well in line with the aspects agreed upon in the IPBES assessment on invasive alien species, deliverable 3bii (see IPBES/4/19, Annex III to decision IPBES-4/1). Identical definitions will guarantee the comparability of results, which will increase their usefulness. Through this, it will also make sure that the findings of this reg. assessment are of the highest possible use for the IPBES assessment on IAS.	Thank you. We have rewritten this.
Jacques Tassin	Chapter 4	12	513	12	519	Instead of providing so many references, without any information or with poor information, that would be more relevant to provide more information, with less references	Thank you. We have rewritten this.
L.G. Saw	Chapter 4	12	535	12	535	To change to "African tulip tree"	This has been corrected.
Li Junqing	Chapter 4	12	537	12	539	In China, <b>some</b> alien tree species are currently used in forestry across the region and actively planted across mostly the southern areas, <b>not widely planted</b> .	Thank you. We have rewritten this.
Ludwig Kammesheid, IB	Chapter 4	12	539	12	540	In your assessment, please also consider that many of these tree species, e.g. Acacia, are only invasive in open areas; they do not necessarily do harm in intact forest ecosystems.	The text acknowledges that their potential impacts are still not clear.
Uta von Witsch	Chapter 4	13	565	13	567	Maybe you could include a case study from the Asia Pacific region to illustrate the impact of IAS on marine environments and the associated changes to marine ecosystems in the region.	Thank you. We have taken this into account in the chapter revisions and complemented where possible.
Uta von Witsch	Chapter 4	13	596	13	598	Please provide an example.	This has been done.
Uta von Witsch	Chapter 4	14	610	14	610	Please provide a definition for 'novel climate'.	This has been corrected.
Penny van Oosterzee	Chapter 4	14	639	14	639	Start new paragraph at On shorter timescales...	This has been corrected.
Penny van Oosterzee	Chapter 4	15	663	15	663	"significant of the two" for what, evolution or climate change?	This has been corrected.
Penny van Oosterzee	Chapter 4	16	713	16	713	The Land Degradation theme does this well. Chapter 3 I think.	Thank you for the suggestion.

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Penny van Oosterzee	Chapter 4	16	727	19	876	These sections ((1), (2), (3), (4), (5), (6)) don't link evidence based research with connections to biodiversity and ecosystem services. I'm not saying that they are not important discussions but here they do not add much to the chapter except to be politically correct.	Since these are indirect drivers we have aimed to make the linkages in the section on interactions.
Penny van Oosterzee	Chapter 4	19	878	21	985	In contrast to my prior comments, these areas have a large amount of evidence for significant impacts on BES and these sections really need to be strengthened. Some of them are little more than lip service. There are real lessons to be learned through classic case studies in APR.	Thank you. We have taken this into account in the chapter revisions and complemented with more material.
Penny van Oosterzee	Chapter 4	19	886	19	886	word 'environment' is missing before refs.	This has been corrected.
Penny van Oosterzee	Chapter 4	19	902	19	902	seems not to support the hypothesis" There is a good box on this on page 65 of Chapter 3 of Land Degradation which should be referred to. In fact much of the Land Degradation theme at least partially overlaps chapters in the APR and is often better written with different and sometimes more recent references.	This has been deleted.
Zhang Xiaoyun	Chapter 4	20	910	20	911	It's better to list the basic population in 1981.	This has been rewritten and no longer uses the phrase.
Penny van Oosterzee	Chapter 4	20	916	20	916	What does this mean? Seems to be a throw-away line.	This has been corrected.
Penny van Oosterzee	Chapter 4	20	926	20	926	"not to weaken environmental laws". But no mention of strengthening them.	This has been rewritten and no longer uses the phrase.
Penny van Oosterzee	Chapter 4	20	945	20	945	Section 3.5.3 of Chapter 3 of the Land Degradation theme does this very well. It should at least be referred to. References used in Land Degradation are much more recent and relevant. The NZ case study presented here could be a box or stand alone case study.	Thank you for the suggestion.
Ludwig Kammesheid, IB	Chapter 4	20	956	20	957	"After the crisis, some conservation efforts were impeded in Indonesia (Gaveau et al., 2009). This statement is unclear, please provide some more background information.	Thank you. We have rewritten this.
Penny van Oosterzee	Chapter 4	20	957	20	957	This is too limp. The 1997 economic crisis led to the escalation of wholesale destruction of Indonesia's forests involving the international community and in particular the IMF. This is a classic case study and should feature strongly to highlight the massive destruction of Indonesian forests in the wake of the Crisis as a result of abusing international structural reforms. See Christopher Barr (2000) Profits on Paper: The Political-Economy of Fibre, Finance, and Debt in Indonesia's Pulp and Paper Industries. CIFOR as a start	Thank you. We have rewritten this.
Penny van Oosterzee	Chapter 4	21	963	21	965	This needs a much deeper analysis. Australia's example is fraught and controversial.	This has been rewritten.
Zhang Xiaoyun	Chapter 4	21	967	21	974	Think about 'agricultural expansion' is a direct or indirect driver?	We have restructured and revised the text.
Penny van Oosterzee	Chapter 4	22	1016	23	1054	Where are the links to biodiversity and ecosystem services?? There are some interesting things going on in the APR. Here is one website that details very recent progress and science papers: <a href="https://ccafs.cgiar.org/research/annual-report/2015?utm_source=CCAFS+Global&amp;utm_campaign=11def4f80c-CCAFS_AR_2015_global&amp;utm_medium=email&amp;utm_term=0_2aef4a737c-11def4f80c-199391837#chapter-5">https://ccafs.cgiar.org/research/annual-report/2015?utm_source=CCAFS+Global&amp;utm_campaign=11def4f80c-CCAFS_AR_2015_global&amp;utm_medium=email&amp;utm_term=0_2aef4a737c-11def4f80c-199391837#chapter-5</a>	Thank you. We have taken this into account in the chapter revisions and complemented with more material.
L.G. Saw	Chapter 4	22	1032	22	1033	Sentence hanging.	This has been corrected.
Zhang Xiaoyun	Chapter 4	22	1038	22	1039	What does the figure want to talk about?	This has been deleted.
Ludwig Kammesheid, IB	Chapter 4	23	1076	23	1077	Does this statement similarly refer to the whole Asia Pacific region? Please specify, if appropriate.	This has been corrected.
Jacques Tassin	Chapter 4	23	1087	23	1087	Where is the following part, expected to be 4.3.2?	This has been deleted.

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Penny van Oosterzee	Chapter 4	24	1108	24	1108	This is such an important fact that I think it needs a whole section. Some of this could go in the Globalization section above which is extremely limp. Need to link with the coverage under the Land Degradation theme.	This has been rewritten, and some cases were discussed in other sections.
Uta von Witsch	Chapter 4	24	1116	24	1116	Maybe a different layout can be found for Figure 4.2. The provided information is very useful and desirable but the figure is a little confusing to look at.	We have revised the figure.
Penny van Oosterzee	Chapter 4	24	1116	24	1117	This is a very messy diag.	This has been revised.
L.G. Saw	Chapter 4	24	1193	24	1205	There other examples of managing forestlands under sustainable forest management. This method is currently used quite widely in Malaysia and Indonesia using certification methods e.g. in Malaysia there is the Malaysian Criteria and Indicator for Forest Management Certification MC&I (Natural Forest) to reduces degradation of forests => Could include this in the write up.	We have rewritten the text.
Li Junqing	Chapter 4	25	601	25	603	the following coments should have some referece: Even big countries face serious soil erosion problems. The latest remote-sensing survey in China shows 601 that the country has some 3.56 million square kilometers of soil erosion areas, accounting for 37 percent 602 of China's total territory.	We have rewritten the text.
Uta von Witsch	Chapter 4	25	1156	52	2438	Section 4.4 is on the "Effects of drivers on biodiversity and ecosystem services". It would be highly appreciated if the section could focus a little more on the 'effects', especially on the 'effects on ecosystem services'. Maybe you could also include more concrete examples to illustrate the findings.	We have rewritten the text.
Jacques Tassin	Chapter 4	25	1160	26	1205	The effects of drivers are not really detailed in this part, excepted in the last sentence	We have rewritten the text.
Penny van Oosterzee	Chapter 4	25	1160	26	1205	Please look at box 3.5.2 in Land Degradation. It handles this better with more recent references. I'm not sure why references a decade or so old are being used as examples of restoration. There is more in the literature than this.	We have rewritten the text.
Jacques Tassin	Chapter 4	25	1174	25	1174	The term 'destabilization of ecosystems' sounds unclear and not scientific	This has been corrected.
Penny van Oosterzee	Chapter 4	26	1207	29	1298	Merge this with the Land Degradation coverage 3.3.2 which is on the whole better written and more comprehensive.	We have rewritten the text.
Penny van Oosterzee	Chapter 4	28	1257	28	1269	Section 3.3.7 of Land Degradation theme does this thoroughly. I am finding these little trite passage quite frustrating when there is good coverage elsewhere in the IPBES themes. Do you not cross pollinate?	We have rewritten the text.
L.G. Saw	Chapter 4	28	1261	28	1261	Synonyms used here, to use the correct names => The correct names are Ageratina adenophora and Chromolaena odorata.	This has been corrected.
Penny van Oosterzee	Chapter 4	28	1271	28	1276	Please look at section 3.3.6 Land Degradation	We have rewritten the text.
Penny van Oosterzee	Chapter 4	29	1291	29	1293	This is also covered in a depressing but concise box in Land Degradation.	We have rewritten the text.
Penny van Oosterzee	Chapter 4	29	1293	29	1294	O yeah? Where? What ref? And does it work?	We have rewritten the text.
Jacques Tassin	Chapter 4	29	1307	29	1307	high sensitivity of species' to what? Please clarify.	We have rewritten the text.
Jacques Tassin	Chapter 4	30	1346	30	1348	sounds speculative	We have rewritten the text.
Jacques Tassin	Chapter 4	30	1353	30	1354	sounds speculative	We have rewritten the text.
Penny van Oosterzee	Chapter 4	30	1359	31	1381	This is a woefully inadequate summary.	We have rewritten the text.
Penny van Oosterzee	Chapter 4	30	1370	31	1372	I think the whole table is more specific to Australian conditions.	This has been deleted.
Uta von Witsch	Chapter 4	31	1372	31	1372	Please provide an explanatory text for Table 1. It is difficult to understand by itself.	We have rewritten the text.
Penny van Oosterzee	Chapter 4	31	1374	31	1374	But look at box 3.5.2 in Land Degradation which is more nuanced. You miss key references eg Geist and Lambin 2004	This has been incorporated.
Penny van Oosterzee	Chapter 4	31	1375	31	1375	The reference is two decades old!	We have rewritten the text.
Jacques Tassin	Chapter 4	31	1376	31	1377	sounds speculative	We have rewritten the text.

Reviewer Name	Chapter	From Page	From Line	To Page	To Line	Comment	Response
Penny van Oosterzee	Chapter 4	31	1383	31	1439	Much of this needs a serious edit, and expansion - probably a complete rewrite. Much could be tabulated. I don't think this is a thorough literature review of the region.	We have rewritten the text.
Hiroaki Ikeda	Chapter 4	31	1385	31	1401	I think farmland abandonments should be considered as a direct driver to reduce BES (cf. Katayama et al. 2014. Agricultural Systems). I know this process is limited in developed countries, but at least the inter-regional/national variation of important direct drivers should be mentioned here.	We have rewritten the text.
Ludwig Kammesheidt, IB	Chapter 4	31	1392	31	1392	If you wish to include more recent figures, please see: Richards, D.R. & Friess, D. A. (2016): Rates and drivers of mangrove deforestation in Southeast Asia, 2000–2012. Proceedings of the National Academy of Sciences of the United States of America, doi/10.1073/pnas. 15102772113.	This has been incorporated.
Jacques Tassin	Chapter 4	31	1393	31	1393	less adaptation of agroforestry system': What do the authors mean? Please clarify.	This has been rewritten and we no longer use the phrase.
Penny van Oosterzee	Chapter 4	31	1395	31	1397	What does this mean?	This has been rewritten and we no longer use the phrase.
Uta von Witsch	Chapter 4	32	1412	32	1414	Please phrase this sentence more carefully since the negative effects of neonicotinoids on pollinators, for which there is first evidence, still need to be scientifically consolidated (see "IPBES (2016): Summary for policymakers of the assessment report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services on pollinators, pollination and food production. S.G. Potts, V. L. Imperatriz-Fonseca, H. T. Ngo, J. C. Biesmeijer, T. D. Breeze, L. V. Dicks, L. A. Garibaldi, R. Hill, J. Settele, A. J. Vanbergen, M. A. Aizen, S. A. Cunningham, C. Eardley, B. M. Freitas, N. Gallai, P. G. Kevan, A. Kovács-Hostyánszki, P. K. Kwapong, J. Li, X. Li, D. J. Martins, G. Nates-Parra, J. S. Pettis, R. Rader, and B. F. Viana (eds.). Publishing Company (to be inserted), City [to be inserted], Country [to be inserted], pp. 1–30.")	This has been rewritten and we no longer use the phrase.
Penny van Oosterzee	Chapter 4	32	1441	35	1593	Great summary of this issue	Thank you.
Ludwig Kammesheidt, IB	Chapter 4	33	1491	33	1492	Public parks do certainly "contribute to enrich urban biodiversity". Very often, though, exotic trees, shrubs and flowering plants are planted. This might not be the best approach in terms of biodiversity conservation. It might be helpful to also address this aspect here.	Thank you. We have covered this in subsequent text.
Jacques Tassin	Chapter 4	34	1506	34	1507	such introduced species lead to intra- and inter-specific hybridization': this is not so systematic, and it remains rather rare,	This has been corrected.
Jacques Tassin	Chapter 4	34	1542	34	1544	This point is highly controversial. Please refer to see Bayas, Juan Carlos Laso, et al. "Influence of coastal vegetation on the 2004 tsunami wave impact in west Aceh." Proceedings of the National Academy of Sciences 108.46 (2011): 18612-18617.	Thank you, this has been incorporated.
Jacques Tassin	Chapter 4	34	1546	34	1546	There is a need for more clarification. In my opinion, economic change is not a driver in itself. Looks out off topic	Economic development is indeed a driver for urbanisation.
Jacques Tassin	Chapter 4	35	1569	35	1569	All along this part on Governance, the effects on biodiversity and ecosystem services are poorly documented	Thank you. We have taken this into account in the chapter revisions.
Jacques Tassin	Chapter 4	35	1597	35	1597	This part is a good example of the text where the effects are poorly described, compared with the drivers	We have rewritten the text.

Reviewer Name	Chapter	From Page	From Line	To Page	To Line	Comment	Response
Penny van Oosterzee	Chapter 4	36	1609	36	1625	The following examples are lost in the lists of drivers. If the paragraph is about spatial scales then that is not at all clear. These examples might be better off as case studies. The listing of factors is a common aspect of the APR chapters and I think factors become a mere abstraction lost in the repetitive lists. There is no real example of how biodiversity and ES are affected.	We have rewritten the text.
Penny van Oosterzee	Chapter 4	36	1614	36	1614	"On the other hand..." has no meaning here.	This has been corrected.
Jacques Tassin	Chapter 4	36	1623	36	1623	Table 4,3 is interesting, but the authorz do not explain why it is useful for us, and how they use it.	We have deleted this.
Penny van Oosterzee	Chapter 4	37	1646	37	1646	No, this is incorrect!! This paper talks of coastal wetlands only. There are vast areas of wetlands in Australia impacted by overgrazing and agriculture. Likely much more than those impacted by residential use. It is a real concern that this reference was so badly misconstrued. Makes one wonder about the interpretation of other references.	Thank you. We are primarily talking about the impacts of urbanisation in this paragraph. The text has been rewritten.
Danesto B. Anacio	Chapter 4	42	1922	42	1923	The impacts of <i>Carcinus maenas</i> as an IAS was not indicated.	We have deleted this.
Ludwig Kammesheidt, IB	Chapter 4	43	1982	43	1985	In areas affected by the 2004 tsunami, mangroves were heavily damaged, and rehabilitation work is ongoing. You might want to consider this aspect in the text. (For reference see e.g.: Laso Bayas et al. (2011): Influence of coastal vegetation on the 2004 tsunami wave impact in west Aceh. Proceedings of the National Academy of Sciences of the United States of America.)	Thank you for a useful reference but the section is on the effect of storms not earthquake-induced tsunamis.
Danesto B. Anacio	Chapter 4	47	2192	47	2192	"Special Areas" or probably "Composite Areas"? Aside from mountains and islands, caves can also be included. "Special" as a qualifying word to describe mountains and islands may be too contextual or specific, indicating that other ecosystems are not special, or that a particular mountain may only be "special" to a particular society, group, or peoples but not special to another social group. It would be good to provide a descriptive paragraph once authors decide what term to use for this particular subsection.	Thank you. This has been incorporated to avoid the qualifier.
Jacques Tassin	Chapter 4	47	2192	52	2438	I cannot understand what 'special areas' mean here. In my opinion, it does not justify to be considered apart from the other ecosystems or areas.	Indeed, this has been rephrased.
Uta von Witsch & Ludwig Kammesheidt, IB	Chapter 4	47	2194	50	2346	This section (4.4.2.1) is on mountains as a special area, skipping between the terms 'mountain ecosystems', 'mountain regions', 'mountain areas' or simply 'mountains'. Section 4.4.1.3 (see p. 29, lines 1300ff) is on 'alpine ecosystems'. The differentiation (between the terms and the sections) is not quite clear. Please clarify. Furthermore, the section focuses on studies conducted in the Himalyan region; please add some information about other mountainous areas in the region.	Thank you. We have taken this into account in the revisions.
Jacques Tassin	Chapter 4	49	2266	50	2303	Once again, the drivers are much more detailed than their effects	We have rewritten the text.
Zhang Xiaoyun	Chapter 4	52	2440	52	2442	need to be developed	We have rewritten the text.
Jacques Tassin	Chapter 4	52	2445	83	3970	Why are there two lists of references?	Thank you. The formatting has been corrected.