

**Comment form for 1<sup>st</sup> Review Phase of the Deliverable 2b) Regional and subregional assessments of biodiversity and ecosystem services for Africa, Chapter 3 'Status, trends and future dynamics of biodiversity and ecosystems underpinning nature's benefits to people'**

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Abdelfattah Badr (AB)  
Aisha Elfaki (AE)  
Andriamahazo Michelle (AM)  
Diane Douglas (DD)  
German IPBES Coordination office and national scientists (IPBES)  
Intergovernmental Technical Panel on Soils (ITPS)  
Josiane Seghieri (JS)  
Nakashima - ILK expert (N)

Ouattara Allassane (OA)  
Rainer M Krug (RMK)  
Safaa A. Ghoneim (SAG)  
Susan Ringrose (SR)  
Thomas Brooks (TB)  
Vincent-Akpu Ijeoma (VAI)  
Voahangy Raharimalala (VR)  
William Olupot (WO)

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
1	German IPBES Coordination office and national scientists (IPBES)	0	General			At this point, the chapter is rather diverse in structure level of detail and content. Trends are only partly covered and future projections are incomplete. Ecosystem services are only mentioned vaguely, at least in some parts.	Chapter restructured at the writeshop held at Golden Gate in South Africa for AfRA experts.
2	German IPBES Coordination office and national scientists (IPBES)	0	General			A half-to-one-page abstract/executive summary related to the background, methodology and key findings would be helpful, particularly for new readers. An abstract is already included in Chapter 6.	Executive summary to be developed as we work on SOD
3	German IPBES Coordination office and national scientists (IPBES)	0	General			The following paper seems relevant: Xue et al. (2015) Mountain gorilla genomes reveal the impact of long-term population decline and inbreeding. Science 348, 242-245.	Will add
4	German IPBES Coordination office and national scientists (IPBES)	0	General			The following reference may be of interest: "Biomass burning fuel consumption dynamics in the tropics and subtropics assessed from satellite" by N. Andela, G. R. van der Werf, J. W. Kaiser, T. T. van Leeuwen, M. J. Wooster, and C. E. R. Lehmann; <a href="http://www.biogeosciences.net/13/3717/2016/">www.biogeosciences.net/13/3717/2016/</a>	Will add
5	Voahangy Raharimalala (VR)	3	39			3.1 Introduction : most of things enumerated in the introduction are not detailed in the document	To be developed further as we build on SOD
6	Josiane Seghieri (JS)	3	44	3	44	Space between full stop and some case studies in « ... the United Nations. Some case studies... »	Changes made as suggested

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7	German IPBES Coordination office and national scientists (IPBES)	3	44	3	51	Key references for the statements should be provided.	Will add
8	German IPBES Coordination office and national scientists (IPBES)	3	51	3	54	Sentence is not clear and may be split into two.	Sentence rephrased and spilled into two as suggested
9	German IPBES Coordination office and national scientists (IPBES)	3	55	3	55	Please specify kind of loss in : '..with higher rates of loss''.	Higher rates of species loss
10	Diane Douglas (DD)	3	55	57	3	Should consider providing references to significant loss of biodiversity in Africa resulting from mining/minerals exploitation; illegal trade in high value woods; illegal trade in threatened and endangered species and their products, as well as people relying on bushmeat as their primary source of protein.	Noted

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
11	Thomas Brooks (TB)	3	57	3	62	<p>These statistics for the prevalence of extinction risk are very important, but not very clearly presented or cited at the moment. It would be wise to cite the latest Red List data (<a href="http://www.iucnredlist.org">www.iucnredlist.org</a>). Brooks et al. (2016) Scientific Data (<a href="http://www.nature.com/articles/sdata20167">http://www.nature.com/articles/sdata20167</a>) summarised these data (and others) according to the IPBES regions and sub-regions, and would be the easiest place for the authors to access this information. All of the underlying data are freely available in Data Dryad (<a href="http://datadryad.org/resource/doi:10.5061/dryad.6gb90.2">http://datadryad.org/resource/doi:10.5061/dryad.6gb90.2</a>). For a template of how this might be done, see the IPBES ECA assessment, Ch 3, Lines 328-338 and Lines 3206-3304. IUCN stands ready to help with synthesis or interpretation if useful: please feel free to contact me directly (<a href="mailto:t.brooks@iucn.org">t.brooks@iucn.org</a>) if so.</p>	Suggested reference to be added once the new structure of the chapter has been decided upon
12	German IPBES Coordination office and national scientists (IPBES)	3	58	3	58	Please provide timeframe.	Timeframe to be provided
13	Rainer M Krug (RMK) (RMK)	3	65	3	65	Forest loss per capita does not make much sense to me. If you consider this usefull information, I would also include the overall / percentage loss.	Overall/percentage loos added

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14	Thomas Brooks (TB)	3	67	3	72	Brooks et al. (2016) Scientific Data ( <a href="http://www.nature.com/articles/sdata20167">http://www.nature.com/articles/sdata20167</a> ) also summarise data on protected area coverage of important sites according to the IPBES regions and sub-regions - these would be highly relevant to include here. For a template of how this might be done, see the IPBES ECA assessment, Ch 3, Lines 151-157 and Lines 2562-2616. IUCN stands ready to help with synthesis or interpretation if useful: please feel free to contact me directly (t.brooks@iucn.org) if so.	References added
15	Abdelfattah Badr (AB)	3	68			Remove in Africa; it is redundant	Corrected
16	Abdelfattah Badr (AB)	4	108			Start new paragraph with Afriacans used to	Changes made as suggested
17	Josiane Seghieri (JS)	4	111	4	111	Replace « However, in Afrcan » by « However, in African »	Changes made as suggested
18	William Olupot (WO)	4	111	4	112	requires editing	Edited
19	Abdelfattah Badr (AB)	4	116			Write as Anderson, 2013	Changes made as suggested
20	German IPBES Coordination office and national scientists (IPBES)	4	127	4	128	Please specify: which subregion?	Subregion specified
21	Vincent-Akpu Ijeoma (VAI) (VAI)	4	128	4	129	What is the meaning of PA status	PA stands from Protected Areas

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22	German IPBES Coordination office and national scientists (IPBES)	4	128	4	129	Sentence is not complete; may be use 'livestock production' instead of 'grazing'; explain PA status.	Sentence rephrased and "livestock production" used
23	William Olupot (WO)	5	120	5	121	requires editing	Edited
24	Voahangy Raharimalala (VR)	5	130			3.2 Methodological approach : Most of things mentioned here are not treated in the document	Methodology section reworded
25	German IPBES Coordination office and national scientists (IPBES)	5	130	5	163	The methodological description is vague. How was the contemporary literature and indigenous and local knowledge (ILK) reviewed and included? How do the mentioned indicators look like? Under which criteria were the case studies chosen?	Methodology section reworded
26	Nakashima - ILK expert (N)	5	130	5	130	section "methodological approach" : ADD: use of ILK, available through published literature and dialogue workshops undertaken in the context of IPBES as a source of results complementary to results obtained by scientific methods and studies	Will seek guidance on integration of ILK, considering the current IPBES guide.
27	Abdelfattah Badr (AB)	5	131			Delete in Chapter 3 will be presented in this section, i.e., and add focus on	Deleted
28	Josiane Seghieri (JS)	5	138	5	138	« Invaded by alien species; » should be replaced by « Invasion by alien species; »	Changes made as suggested
29	Josiane Seghieri (JS)	5	138	5	138	How climate change resilience would be assessed ?	More information on this to be found in chapter 4

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30	Voahangy Raharimalala (VR)	5	140	5	140	<i>e.g Biodiversity and trends in biodiversity will be examined at genetic, species and ecosystem levels</i> : This is not shown in the documents	Will add
31	German IPBES Coordination office and national scientists (IPBES)	5	141	5	145	Sentences are not complete.	Sentences rephrased to read complete
32	Vincent-Akpu Ijeoma (VAI) (VAI)	5	142	5	147	Too many acronym without writing in full ITPGR; CITES and CMS-listed species	All acronyms are spelled out
33	German IPBES Coordination office and national scientists (IPBES)	5	142			Abbreviations should be avoided; e.g. write out ITPGR.	ITPGR spelled-out
34	Josiane Seghieri (JS)	5	144	5	144	CITES and CMS should be explicated because the first time mentioned in the chapter	All acronyms are spelled out
35	Abdelfattah Badr (AB)	5	147			Add the year of publication of the European Commission Red Data Book	Year of publication added
36	German IPBES Coordination office and national scientists (IPBES)	5	148	5	148	Please exchange 'will be used' instead of 'will use' and also 'covering' instead of 'cover'.	Changes made as suggested
37	Abdelfattah Badr (AB)	5	148			Remove Chapter 3;	Removed
38	Vincent-Akpu Ijeoma (VAI) (VAI)	5	150	5	151	iv) evaluate it - not clear	Clarified

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39	German IPBES Coordination office and national scientists (IPBES)	5	151	5	151	Delete 'it'.	Deleted
40	Josiane Seghieri (JS)	5	156	5	156	idem for IBA (Important Bird and Biodiversity Areas) and KBA (Key Biodiversity Areas), and RAMSAR site (a wetland site designated of international importance under the Ramsar Convention). The last calls a footnote as followed : The Ramsar (Iran) Convention is an international treaty for the conservation and sustainable use of wetlands. It is also known as the Convention on Wetlands that was signed in 1971.	Ramsar sites are explained in IPBES glossary
41	Josiane Seghieri (JS)	5	159	5	161	« linear coastal systems » mentioned twice. If relevant the difference between the two should be explained.	Changes made as suggested
42	Voahangy Raharimalala (VR)	6	164	6	164	3.3 Overview of status and trends (specify of what?) at the regional scale in Africa	At sub-regional scale for each ecosystem unit of analysis
43	German IPBES Coordination office and national scientists (IPBES)	6	165	6	206	To include more references from original scientific literature rather than only WHO, FAO; UNEP seems better. Please avoid overlaps with other sections and chapters, e.g. with general introduction of chapter 3.	References to be added as suggested
44	Josiane Seghieri (JS)	6	174	6	174	Replace « ...the gross domestic product(FAO, 2014). » by « ...the gross domestic product (GDP, FAO, 2014). »	Changes made as suggested
45	Abdelfattah Badr (AB)	6	174			Leave space between product and (FAO, 2014).	Done

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46	German IPBES Coordination office and national scientists (IPBES)	6	178	6	178	Delete 'the'.	Done
47	German IPBES Coordination office and national scientists (IPBES)	6	178	6	181	I suggest to remove this section to the end of 3.3.1.	Done
48	German IPBES Coordination office and national scientists (IPBES)	6	178	6	181	This section may also be deleted.	Done
49	German IPBES Coordination office and national scientists (IPBES)	6	190	6	192	Please give timeframe.	Timeframe to be provided in SOD
50	German IPBES Coordination office and national scientists (IPBES)	6	193	6	197	It seems better to remove this section to the end of 3.3.1.	Changes made as suggested
51	German IPBES Coordination office and national scientists (IPBES)	6	194	6	194	What sources were used for 'best available knowledge'?	This information is deleted as deemed irrelevant
52	German IPBES Coordination office and national scientists (IPBES)	6	196	6	197	Please give reference	Will provide

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53	Vincent-Akpu Ijeoma (VAI) (VAI)	6	207	7	208	fig 3.1 not cited	Now cited in text
54	Intergovernmental Technical Panel on Soils (ITPS)	6		13		In Section 3.3 and subsequent subsections, the current content does not fulfill the expectation. The section should be more elaborated. One would expect a broad assessment od biodiversity and ecosystems services using some existing assessment framework such DPSIR 5Driving forces, Pressures, State, Impact, Response) developed based on the concept of ecosystem goods and services. moreover, too many unfilled sections make the ready of this chapeter very difficult.	Partially agree with this comment, given that the chapter does not look into drivers of biodiversity loss but chapter 4 does. The main focus of this chapter is on status and trends of Biodiversity at all levels (Species, ecosystems and genetic)
55	Abdelfattah Badr (AB)	7	208			What chapter 3 in this legend mean?? and in what book and when it was published?? [source: from State of Biodiversity in Africa, draft report, supplied to IPBES chapter 3].	To be developed further as we built on SOD
56	German IPBES Coordination office and national scientists (IPBES)	7	209			Figure 1: there is no reference to this figure in the text.	Now cited in text
57	Voahangy Raharimalala (VR)	7	210	7	211	source: from State of Biodiversity in Africa, draft report, : the final document is now available	References to be added as suggested
58	Rainer M Krug (RMK) (RMK)	7	212	10		This whole chapter needs some summarizing of the tables in the text	Noted and shall be addressed as we develop SOD

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59	German IPBES Coordination office and national scientists (IPBES)	7	212	10		The context of information in this sub-chapter is not sufficiently described. Why are these sources selected and not others (e.g. red lists, projective models)? Any link to ecosystem services?	Noted and shall be addressed as we develop SOD
60	German IPBES Coordination office and national scientists (IPBES)	7	213	7	221	The description of the methodology used may be moved to section 3.2.; here the findings should be focussed.	Changes made as suggested
61	German IPBES Coordination office and national scientists (IPBES)	7	218	7	219	Sentence seems to be incomplete.	Sentence reworked
62	Voahangy Raharimalala (VR)	7	222			Why taking only species cited in CITES, species in the redlist show trends as well for the threats	Due to scarcity of data
63	Thomas Brooks (TB)	7	222	8	233	The value and placement of this table is not clear to me. CITES listings are a policy response, and so if anywhere, this section and Table 3.1 belongs in Chapter 6.	Noted and shall be addressed as we develop SOD
64	German IPBES Coordination office and national scientists (IPBES)	7	224	7	224	Where are the subregions defined (which country belongs to which subregion?)	In chapter 1 of the assessment report
65	German IPBES Coordination office and national scientists (IPBES)	7	231	8		Table 3.1. Summarizing the CITES species is a reasonable approach, but the focus of CITES on trade clearly also limits its significance. This should be mentioned.	Noted and shall be addressed as we develop SOD

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66	Intergovernmental Technical Panel on Soils (ITPS)	7		8		Fig 3.1 and Table 3.1 seem to contradict each other because Fig 3.1 shows the highest ecosystem assets in West and Central Africa but Table 3.1 shows the lowest number of species in these regions. Can this be explain and justify?	Noted and shall be addressed as we develop SOD
67	German IPBES Coordination office and national scientists (IPBES)	8		10		Tables are hardly compehensive. Their clarity should be improved e.g. by trend arrows.	Clarity and more detailed caption to be provided
68	Andriamahazo Michelle (AM)	8		8		Table 3.1: The number of species listed by CITES (to Appendix I, II or III) for birds, mammals, fishes, amphibians and plants column) of the total for the taxon [source: CITES, ???]. The source's date to be completed. The Appendix I, II, III should to be recalled	Noted and shall be addressed as we develop SOD
69	Andriamahazo Michelle (AM)	9	234	10	234	What is the title of Table 3.2	This table is deleted
70	Abdelfattah Badr (AB)	9	234			Table 3.2: write a detailed legend	This table is deleted
71	German IPBES Coordination office and national scientists (IPBES)	9	234	9		Table 3.2. is not explained in the text.	This table is deleted
72	Voahangy Raharimalala (VR)	9	234			What is the title of the table 3.2???	This table is deleted
73	Josiane Seghieri (JS)	9	234	9	234	The title of the table 3.2 is missing	This table is deleted

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74	Thomas Brooks (TB)	9	234	10	234	What does this Table 3.2 show? There is no legend. What do the "year" columns signify? The underlying source of these data should be cited.	This table is deleted
75	Intergovernmental Technical Panel on Soils (ITPS)	9		9		Table 3.2 not understood!!!	This table is deleted
76	Rainer M Krug (RMK) (RMK)	11	235	13	292	I assume that the blank headers will be filled.	Gaps to be filled as we develop SOD
77	Safaa A. Ghoneim (SAG) (SAG)	11	235	the end of this chapter		too many gaps of information about different types of natural ecosystems.... considering the amount of information required to cover each of them , moreover the problems of data availability and reliability,.... ; I may recommend calling research work to fill these gaps, and raising these problems to encourage data sharing through an international organizations ....	Gaps to be filled as we develop SOD
78	German IPBES Coordination office and national scientists (IPBES)	11	235	13	292	Each subsections should preferentially have the same structure and the same level of detail and analysis. Currently the assessment looks like a very heterogeneous mix of information.	The has been considered during the Writeshop held in South Africa

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79	Nakashima - ILK expert (N)	11	235			section 3.3.3. "Biomes" ADD when available observations of local / indigenous communities relative to trends of ecosystems and biodiversity, as a source of information on the same level as results issued from scientific literature. --> see the following examples	To added as we work on SOD
80	German IPBES Coordination office and national scientists (IPBES)	11	236	12	274	Obviously large parts of this section are still missing.	Gaps to be filled as we develop SOD
81	Abdelfattah Badr (AB)	11	236			Listing the types of terrestrial biomes with no additional information is of limited value , I suggest providng some information about their distribution	Information on Units of analysis considered in this chapter is provided in chapter 1 of the assessment report
82	Andriamahazo Michelle (AM)	11	237	11	239	There should be examples of higher declining in natural forest cover for sub region East Africa and South Africa	Agree, and they will be added
83	German IPBES Coordination office and national scientists (IPBES)	11	239	11	239	What does natural mean here? What period of time?	Comment not clear
84	Andriamahazo Michelle (AM)	11	240	11	245	06 sub sections to be written/developed/completed	Section completed

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85	Abdelfattah Badr (AB)	11	246			Listing the types of Freshwater and inland waters is of limited value without additional information on their distribution in different countries	Information on Units of analysis considered in this chapter is provided in chapter 1 of the assessment report
86	Aisha Elfaki (AE)	11	247	11	247	Smith et.al (2009)	Added
87	Voahangy Raharimalala (VR)	11	247	12	257	the paragraph should not be here because 3.3.3.2 is talking about the freshwater ecosystem	Changes made as suggested
88	Josiane Seghieri (JS)	12	255	12	255	Replace « In this document we o compare... » by « In this document we compare... »	Changes made as suggested
89	Thomas Brooks (TB)	12	259	12	264	Good use of the Red List data for African freshwater species in Tables 3.3 and 3.4.	Thank you!
90	Andriamahazo Michelle (AM)	12	265	12	273	07 sections to be written/Developed	Sections developed
91	Thomas Brooks (TB)	13	275	13	278	The OHI is a composite index including measures of "nature's benefits" and "drivers" as well as of "nature". This material should therefore be moved to Chapter 5 on integrated analysis.	Noted
92	German IPBES Coordination office and national scientists (IPBES)	13	277	13	292	I suggest to briefly explain the Ocean's Health Index here and how it is quantified.	OHI to be explained
93	Andriamahazo Michelle (AM)	13	288	13	292	To be reformulated, Difficult to understand	Changes made as suggested

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
94	Abdelfattah Badr (AB)	13	293			The given examples in the sub-regional assessment are selective and cover literature available to the contributors only	Noted and shall be addressed as we develop SOD
95	Voahangy Raharimalala (VR)	13	293			For this chapter, should give detail on Habitats, biodiversity and genetical aspect. This is not shown	Requested information to be developed
96	Nakashima - ILK expert (N)	13	293			EAST AFRICA and SOUTHERN AFRICA: - Bollig & Schulte, 1999. Environmental change and pastoral perceptions: degradation and indigenous knowledge in two african pastoral communities. (Kenya and Namibia - Savanna ecosystems): Interviews with elders where they relate their observations of changes among species, vegetation and ecosystem dynamics over their life. They sometimes attribute the changes to human behaviour breaking the rules... (p499): Summary of an interview with an elder (Kenya): "All bushes are increasing, especially those that are not good for animals. Pelel (Acacia nubica) has increased everywhere. However, something is good about pelel. Around its roots some grasses grow and the ants (togh) which are eating the grass do not go for it because they are repelled by the scent of the bush. Pelel is a good fodder for camels and goats. The tree that is really eating the grass is panyaril	Will seek guidance on integration of ILK, considering the current IPBES guide.

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						<p>(Acacia reficiens); panyaril bushes become dense and eat the grass. It is increasing rapidly and is eating the grass everywhere. There is no livestock species that is eating panyaril; it is completely useless. Consequently, its growth is not checked, and seeds are carried away easily by the wind. " (p505-506): "[summary of an interview with an elder living in western Kaokoland - Namibia]: In the past, the Omungunda plain was grazed by numerous wild animals. There were elephants, kudus, zebras, and springbok. The place was famous for its teeming wildlife. This plain was mainly used by mobile cattle camps; no household stayed here permanently. In those days the Omungunda plain was covered by orueyo (<i>Eragrostis porosa</i>), eriangwari (<i>Brachiaria malacodes</i>), ehomba (<i>Setaria verticillata</i>), okatjira konduno (<i>Stipagrostis hirtigluma</i>), ongumba (<i>Stipagrostis uniplumis</i>) and okarieamenye (<i>Microchloa caffra</i>). Omihama trees (<i>Terminalia pruniodes</i>) were widespread, and omutati trees (<i>Colophospermum mopane</i>) were only found near the hills. Then since 1959 households began to settle in the Omungunda plain because the government built a borehole there. Since then the valley has been permanently occupied by at least four</p>	

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						households. The vegetation of the Omungunda plain looks very different nowadays. Omihama trees are only found at its lower end. Many grasses are not found anymore. Only okarieamenye is still found abundantly, and ongumba is at least found in some patches. This is because of the current drought. Once rains fall abundantly again, the grasses will also return."	
97	Abdelfattah Badr (AB)	13	295			The examples on the status, past, current and future trends in biodiversity and ecosystems and the impact on people in East Africa add few classified informations on the countries of the area	Noted.

98	Nakashima - ILK expert (N)	13	295		<p>EAST AFRICA:  - Oguge 2016 (Kenya): Landscape changes identified by two Samburu communities have “key drivers being both anthropogenic and ecological. The two Samburu communities in this study attributed these changes to reduced attention to the traditional governance system as the commoditization of natural resources takes root.” “The two communities recognized five types of landscape key to their livelihoods. These included pastureland (angata), forests (ntim), water sources (sere), hills (lowuan), and hardpan (loijuk). From these landscapes, they obtain food, water, medicinal plants, building material and cultural artifacts. Additionally, these landscapes sustain their livestock, which is a major source of livelihoods and cultural resources.”  “Changes in species composition (e.g. loss of six grass species in grazing areas), increase in woody vegetation including an invasive Acacia species, loss of grass cover, and new gully formations were identified”. (Nicholas O. Oguge (2016). <i>Landscape ethnoecological knowledge base and management of ecosystem services among the Samburu of Northern Kenya</i>. In Marie Roué, Alfred Oteng-Yeboah, Peris Kariuki and Yao Adou (eds.), <i>Indigenous and local knowledge of biodiversity and ecosystems services in Africa: Contributions to an IPBES regional assessment</i>. UNESCO: Paris.)</p>	Will seek guidance on integration of ILK, considering the current IPBES guide.
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					<p>- Shemdoe 2016 (Tanzania): Cases from the Usambara Mountains (rainforest area) and Mpwapwa District (semi-arid lands) in central Tanzania show that traditional practices are changing in response to landscape changes. "a range of traditional tillage practices have been in use in Mpwapwa district for years. These include: 1) no-till farming, referred to as sesa in Kiswahili and known locally known as kusesa; 2) shallow tillage, called kutifua in Kiswahili and known locally as mbundugwa; and 3) ridging, called matuta in Kiswahili and known locally known as majeleka... However, it was noted that although all these practices are still in use, shallow tillage (mbundugwa) is becoming more dominant and commonly used compared to the other two practices. It was reported that shallow tillage is more productive compared to the other methods, and also more time saving." (<i>Riziki Silas Shemdoe (2016). Indigenous and local knowledge for biodiversity and ecosystem services in Tanzania: the case of two selected communities. In Marie Roué, Alfred Oteng-Yeboah, Peris Kariuki and Yao Adou (eds.), Indigenous and local knowledge of biodiversity and ecosystems services in Africa: Contributions to an IPBES regional assessment. UNESCO: Paris.</i>)</p> <p>- Dalle et al. 2005 (Ethiopia - woodlands and bushlands): (p11) "They described overgrazed grazing lands as 'Barbadaa',</p>	
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					<p>which means few or no grass available, and degraded areas as 'Adaala'. These pastoralists added that, even if there was enough rain, such degraded lands were not producing any grass. From their perspective, indicators of deterioration of the rangeland included:</p> <p>Shortage of grass, Decreasing and/or absence of highly desirable forage grasses (which may be equivalent to low forage quality), Low milk production, Reduced conceiving frequency of cows (low frequency of mating)."</p> <p>- Philpot et al. 2015 (Seychelles - coastal): (p35) "On external threats, according to Martin (2010), Seychelles possessed some of the most threatened ecosystems in the world, and many respondents perceived that the country's marine resources were at serious risk from these threats. For example, Interviewees 3 (government officer) and 5 (environmental NGO - ENGO), believed that Seychelles suffered severely from the coral bleaching event in 1997/8, which 'continues to be a major impact'1 (a view shared by Cesar, van Beukering, Payet, &amp; Grandcourt, 2004; Payet, 2007; Spencer, Teliki, Bradshaw, &amp; Spalding, 2000; McClanahan et al., 2009)."</p> <p>- Sulieman et al. 2012 (Sudan - savanna / cultivated land): (p237) "There were closer relations between the types of use and the changes in species abundance: those species</p>	
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					<p>used for live fences, firewood and as fodder were considered to have declined. Hellier, Newton &amp; Gaon (1999) concluded that rapid surveys of indigenous knowledge may be used as a source of information about trends in biodiversity, including both changes in abundance of particular species and the dynamics of different vegetation types."</p> <p>- Solomon et al. 2007 (Ethiopia): (p486) "All elder respondents in the selected villages considered the rangeland condition to have declined over time. It was emphasized that the rate of decline was very fast in the past 15–20 years. All the elders noted a decline in the abundance of highly palatable grass species, and an increase in woody vegetation and bare ground. According to the respondents, these are the most important indicators of rangeland condition. Some of the respondents illustrated this situation by recalling the past when the Borana rangeland was open, dense grassland and that horse riding over a long distance, now impossible, was once practiced as a traditional race of the herdsmen." (p487)</p> <p>"Interviews of group elders in the selected villages indicated that there is a perceived problem of woody encroachment in the semi-arid Borana rangeland. Woody plant species considered by the respondents as the main encroachers, are <i>Acacia brevispica</i>, <i>Acacia drepanolobium</i>, <i>Acacia tortilis</i>, <i>Commiphora africana</i> and <i>Euclea shimperi</i>."</p>	
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Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
99	Josiane Seghieri (JS)	13	296	13	297	The countries comprised in East Africa should be listed as they are for those comprised in southern Africa (page 24 line 653 to 654).	Listed in Chapter 1 and within Africa assessment scoping document
100	Aisha Elfaki (AE)	13	297	13	297	I suggest Firstly we must clarify the countries that compramise the east Africa	Listed in Chapter 1 and within Africa assessment scoping document
101	German IPBES Coordination office and national scientists (IPBES)	14	300	14	300	Please give reference.	Will add
102	Aisha Elfaki (AE)	14	309	14	314	this paragraph need more information about tropical and subtropical forest of region	Will add more information
103	German IPBES Coordination office and national scientists (IPBES)	14	309	14	314	The infomation in this short paragraph seems not well related.	Will add related information
104	Andriamahazo Michelle (AM)	14	315	14	320	06 sub sections to be written	Section will be written and all gaps filled
105	German IPBES Coordination office and national scientists (IPBES)	14	315	14	320	Parts are missing, also in the following sections.	Section will be written and all gaps filled
106	Andriamahazo Michelle (AM)	15	333	15	334	02 sub sections to be completed	Section will be written and all gaps filled
107	Andriamahazo Michelle (AM)	15	335	15	339	section to be developed	Section will be written and all gaps filled

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
108	German IPBES Coordination office and national scientists (IPBES)	15	336	15	339	This information is too general. More details are appreciated.	More information to be added
109	Andriamahazo Michelle (AM)	15	342	17	390	16 sub sections to be completed	Section will be completed and all gaps filled
110	Abdelfattah Badr (AB)	15	347			The examples on the status, past, current and future trends in biodiversity and ecosystems and the impact on people in Central Africa add few classified information on the countries of the area	Noted
111	Josiane Seghieri (JS)	15	348	15	349	The countries comprised in Central Africa should be listed as they are for those comprised in southern Africa (page 24 line 653 to 654). Central and West Africa are grouped in chapter 1 but not in chapter 3 . This is why it seems necessary to clearly indicated the choice made here.	Listed in Chapter 1 and within Africa assessment scoping document
112	Aisha Elfaki (AE)	15	351	15	351	Each regions must start with countries compromise	Listed in Chapter 1 and within Africa assessment scoping document

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
113	Diane Douglas (DD)	15	351	355	15	This chapter appears to be a very early draft, with many sections still requiring discussion development. As the draft is enhanced, it would be valuable to include a discussion of key causes of deforestation in the regions identified in Figure 3.4. Rates in DRC are significantly higher than other regions, including Republic of Congo, and projections indicate this trend will continue, it would be interesting to know what is driving this.	That's true. We hope to further develop all the sections and fill in existing gaps before submission of SOD
114	German IPBES Coordination office and national scientists (IPBES)	15	353	15	356	This fits better to a section on freshwater systems.	Noted and agree
115	Josiane Seghieri (JS)	16	358	16	358	The difference between a) and b) in Figure 3.4 should be mentioned	Noted
116	German IPBES Coordination office and national scientists (IPBES)	17	359	18	412	There seems to be too much focus on Morocco. What about other parts of North Africa?	Information from other countries in North Africa to be integrated
117	Safaa A. Ghoneim (SAG) (SAG)	17	385	17		more info could be added here about total areas of coastal wetlands, more info about the Egyptian coastal lagoons, the excepted losses due to climate change. the trends of change in 5 coastal wetlands could be included? (Ghoneim, S.A. 2003)	Noted
118	Abdelfattah Badr (AB)	17	391			Status, past, current and future trends in biodiversity and ecosystems and the	impact on people in North Africa have limited information and mainly restricted to Morocco

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
119	Nakashima - ILK expert (N)	17	391			<p>NORTH AFRICA:</p> <p>- Halmy 2016 Egypt: The knowledge about how 482 native plant species recorded in the studied sites are used by the local inhabitants was compiled and is presented in this paper. "Traditional knowledge of the local inhabitants is an integral part of the desert ecosystem, its maintenance should be considered as a priority integrated with the effort of the conservation of biodiversity and ecosystem services. The status of the holders of the indigenous knowledge in the different local communities should be assessed and lists of these holders should be documented." "The plants are a source of medicines, grazing and fodder, fuel and human food. The plant species are also used for other purposes included tanning, fencing and windbreak construction, ornamental purposes, handicraft materials, detergent, rope fibers, thatch and shelter materials. The use of desert species in medicine tops all the other reported uses of the species." "For using native species in rehabilitation of degraded coastal Mediterranean rangelands, Heneidy &amp; Waseem (2007) have used <i>P. turgidum</i>, a native perennial grass, in an experiment to test its merit in rehabilitating the coastal Mediterranean degraded rangeland." (<i>Marwa Waseem A. Halmy</i></p>	Will seek guidance on integration of ILK, considering the current IPBES guide.

Comment #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
						<i>(2016). Traditional knowledge associated with desert ecosystems in Egypt. In Marie Roué, Alfred Oteng-Yeboah, Peris Kariuki and Yao Adou (eds.), Indigenous and local knowledge of biodiversity and ecosystems services in Africa: Contributions to an IPBES regional assessment. UNESCO: Paris.)"</i>	
120	Josiane Seghieri (JS)	17	392	17	393	The countries comprised in North Africa should be listed as they are for those comprised in southern Africa (page 24 line 653 to 654). In the literature, Soudan is sometimes included in East Africa and sometimes in North Africa. This is why it seems necessary to clearly indicate the choice made here.	Listed in Chapter 1 and within Africa assessment scoping document
121	Aisha Elfaki (AE)	17	395	17	395	start with clarification of countries compromise of the north Africa region	Changes made as suggested
122	Rainer M Krug (RMK) (RMK)	17	395	18	411	Why is there only Morocco mentioned? Morocco as a case study for North Africa?	Information from other countries in North Africa to be integrated
123	Andriamahazo Michelle (AM)	17	395	18	411	Sub region North Africa is only represented by Morocco, the others countries should be also described. Table 3.7: Area of the main forest species in Morocco [source: ???]. The source should be mentioned	Information from other countries in North Africa to be integrated

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
124	German IPBES Coordination office and national scientists (IPBES)	17	407			Table 3.5. should be be omitted since being very specific, also Table 3.6 and 3.7.	Agreed.
125	Josiane Seghieri (JS)	18	409	18	409	Replace « ofareas » by « of areas » in the title of figure 3.6. and replace « andwoodlands » by « and woodlands » in the first column and first row of the same table.	Changes made as suggested
126	Abdelfattah Badr (AB)	18	409			Leave space between of and areas	Done
127	Abdelfattah Badr (AB)	18	409			Identify source	Source identified
128	German IPBES Coordination office and national scientists (IPBES)	18	411			Table 3.7: Area of the main forest species in Morocco [source: ????].	Source to be added
129	Andriamahazo Michelle (AM)	18	412	18	414	03 sub sections to be developed/completed	Noted
130	Aisha Elfaki (AE)	18	415	18	415	this paragraph must start with the word In Sudan to be : In Sudan nearly 80% of all rangelands are located in semi-desert ....ect	Changes made as suggested
131	German IPBES Coordination office and national scientists (IPBES)	18	415	19	437	Does this section refer to all of North Africa or only to certain countries? This is more of a habitat description. References are largely missing.	Information from other countries in North Africa to be integrated

Comment #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
132	Aisha Elfaki (AE)	18	415	19	437	this paragraph need more clarification of dry lands and desert for other north African countries because all this information is about Sudan only	Noted and agreed
133	Rainer M Krug (RMK) (RMK)	18	415	19	437	Does this now refer to North Africa or still Morocco only?	To North Africa. Information from other countries in North Africa to be integrated
134	Josiane Seghieri (JS)	18	416	18	416	Replace « .In the semi- desert » by « . In the semi- desert » (space after the full stop)	Changes made as suggested
135	Josiane Seghieri (JS)	19	427	19	427	Replace « Eragrostis temula » by « Eragrostis tremula »	Changes made as suggested
136	Josiane Seghieri (JS)	19	428	19	428	Replace « Andropogon gyanus » by « Andropogon gayanus » et « Schenfoldia gracilis » by « Schoenefeldia gracilis »	Changes made as suggested
137	Aisha Elfaki (AE)	19	430	19	433	RPGD it mean Range and Pasture General Directorate . It must not write with its abbreviation	All acronyms are spelled out
138	Josiane Seghieri (JS)	19	430	19	430	A space is missing before RPGD (2013)	Changes made as suggested
139	Josiane Seghieri (JS)	19	430	19	437	Consequences on ecosystem services and impacts on people wellbeing should be indicated.	Noted
140	Abdelfattah Badr (AB)	19	441			Space between Fresh and water	Changes made as suggested

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
141	German IPBES Coordination office and national scientists (IPBES)	19	452	20	492	Why is Sudan given in that detail here? If it is characteristic or an important example please indicate why that is the case.	Information from other countries in North Africa to be integrated
142	Josiane Seghieri (JS)	19	457	19	457	Replace « the share of water » by « The share of water »	Changes made as suggested
143	German IPBES Coordination office and national scientists (IPBES)	20	496	21	509	Again, only Sudan.	Information from other countries in North Africa to be integrated
144	Josiane Seghieri (JS)	20	500	20	500	Replace « Other non-Nilotic lotic waters » by « Other non-Nilotic waters »	Changes made as suggested
145	German IPBES Coordination office and national scientists (IPBES)	21	536	22	543	Please add references.	Will add
146	German IPBES Coordination office and national scientists (IPBES)	22	546	24	650	This section is very detailed but focuses on one specific region only.	Other countries to be considered
147	German IPBES Coordination office and national scientists (IPBES)	22	546	22	551	Very descriptive, can you add any quantifications? Risk status?	will add quantifications

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
148	Safaa A. Ghoneim (SAG) (SAG)	22	552			The significant intensive coral reefs along the Egyptian eastern coasts are totally ignored here, while the Sudan coasts were mentioned! Also Sea-grass & Mangroves, and all the coastal habitats?	Information on coral reefs of Egypt as well as from other coastal countries in North Africa to be added
149	Josiane Seghieri (JS)	22	561	22	561	MPA (Marine Protected Area) should be explicited for this first time	All acryonyms are spelled out
150	Josiane Seghieri (JS)	22	564	22	564	Replace « Pinctadamargaritifera » by « Pinctada margaritifera »	Changes made as suggested
151	Vincent-Akpu Ijeoma (VAI) (VAI)	23	603	23	603	Elasmobranches are fishes (cartilaginous fishes)	Changes made as suggested
152	Abdelfattah Badr (AB)	24	651			The tables and examples of the section on the status, past, current and future trends in biodiversity and ecosystems and the impact on people in southern Africa are limited	Note. Text to be expanded to include more examples
153	Nakashima - ILK expert (N)	24	651			SOUTHERN AFRICA - Kong et al. 2015 (South Africa - veld): (p85) "Our results showthat local participants such as the livestock farmers can contribute to rangeland assessment by distinguishing veld condition accurately over an extensive area relatively quickly based on their experience and observations gained from regular interaction with the environment."	Will seek guidance on integration of ILK, considering the current IPBES guide.
154	German IPBES Coordination office and national scientists (IPBES)	24	653	25	667	Very general description only. The Tables seem interesting but are onyl copy and paste without explanation.	explanations to be provided

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
155	Josiane Seghieri (JS)	24	657	24	657	Replace « azonal ecoystems » by « azonal ecosystems »	Cha
156	Abdelfattah Badr (AB)	25	659			Identify source for Figure 3.6	Source identified
157	Andriamahazo Michelle (AM)	25	659	25	663	What is the title of the figure 3.6 and the source. What is the title of the figure 3.7 and the source	Title and source added
158	Abdelfattah Badr (AB)	25	663			Identify source for Figure 3.7	Source identified
159	German IPBES Coordination office and national scientists (IPBES)	25	670			Why only focus on South Africa?	Information from other countries in Southern Africa to be integrated

Comment #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
160	Diane Douglas (DD)	25	670	679	25	as the chapter is further developed, consider expanding discussion on drivers of loss of biodiversity to include mining/resource extraction, illegal trade in high value timber (mainly to Asia), illegal trade in threatened/endangered species and their products, charcoal production and sale of charcoal for cooking to people in rural areas and cities. Of course much of this is in turn driven by economic pressures in rural communities (poverty and lack of other job opportunities that pay as well as illegal timber trade or poaching), cultural traditions (e.g., cooking over charcoal), and also governance -- corruption at all levels of government makes it difficult for biodiversity strategies to be successful.	Noted, and all the suggestions will be considered
161	German IPBES Coordination office and national scientists (IPBES)	25				The source of Figure 3.6 and 3.7 should be added "[source: ????]." The Figures are Tables, or?	Source added
162	Andriamahazo Michelle (AM)	26	685	26	690	06 sub sections to be written	Section will be written and all gaps filled
163	Abdelfattah Badr (AB)	26	691			Leave space between Fresh and water	Changes made as suggested
164	Josiane Seghieri (JS)	26	701	26	701	Add comma after « especially increased frequency of drought »	Changes made as suggested
165	Abdelfattah Badr (AB)	27	706			[source: ????] for Figure 3.8	Source added

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
166	German IPBES Coordination office and national scientists (IPBES)	27	710	27	713	This seems to be a very preliminary analysis.	Agree.
167	Josiane Seghieri (JS)	27	711	27	712	The expression « increasingly important in conserving natural resources while conserving natural resources » should be modified or clarified	The expression modified as requested
168	German IPBES Coordination office and national scientists (IPBES)	28	723	28	723	Which human activities? Please be more explicit.	Text omitted
169	Andriamahazo Michelle (AM)	28	724	28	729	04 sub sections to be developed/written	Section will be written and all gaps filled
170	Abdelfattah Badr (AB)	28	730			The information on the status, past, current and future trends in biodiversity and ecosystems and the impact on people in West Africa is focussed on the role of logging and the genetic diversity; a topic that was not addressed in dealing with other areas of the content	Information from other countries in West Africa to be integrated
171	Aisha Elfaki (AE)	28	731	731	28	clarify country comprmaise region	Listed in Chapter 1 and within Africa assessment scoping document
172	Josiane Seghieri (JS)	28	731	28	732	The countries comprised in West Africa should be listed as they are for those comprised in southern Africa (page 24 line 653 to 654).	Listed in Chapter 1 and within Africa assessment scoping document

Comment #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
173	Nakashima - ILK expert (N)	28	731			<p>WEST AFRICA:  - Mala 2016 (Cameroon): In Cameroon, "the practice of leaving fallow land is one of the main strategies used to restore the fertility of the soils; each household uses a pool of land in order to maintain a spatio-temporal scale of agro-ecological sustainability and resilience through the conservation of forest species, also bearing in mind the restoration of lands and local species... Farmers use a multi-criteria approach to manage soil fertility in order to maintain a threshold of balance through the forest-culture-fallow-forest conversion cycle. To achieve this, and on the basis of its natural capital, they combine several factors such as: the age of the vegetation, previous use of the land, and bio-indicators of soil fertility including the soil color, the activity of worms on the lands and the presence of other indicators of soil fertility." (<i>Armand William Mala (2016). Savoirs, pratiques traditionnelles et locaux en agroecologie et conservation de la bioversity: case des regions du centre et sud Cameroun. In Marie Roué, Alfred Oteng-Yeboah, Peris Kariuki and Yao Adou (eds.), Indigenous and local knowledge of biodiversity and ecosystems services in Africa: Contributions to an IPBES regional assessment. UNESCO: Paris.</i>)</p>	Will seek guidance on integration of ILK, considering the current IPBES guide.

Comment #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
						<p>- Moussa &amp; Yamba 2008 (Niger - Sahel): (p152) "[Jambali, in the three villages, designates a state of degradation of the jigawa and the gueza by the formation of small hard bare surfaces of deflation, fako-fako ja (hard red surface). The following expressions illustrate this dynamic: iska ya heke wurin (the wind blew away the place) or jambali ya shige ta (it is attacked by jambali). These surfaces, characteristic of Sahelian soils, are erosion "magnifyers" or deflation surfaces with erosion crusts (Casenave &amp; Valentin, 1989; Ambouta et al., 1996; Bouzou, 2003)." (p156-157) "the farmer uses the color to distinguish a rich soil from a poor soil. He opposes the farin wuri (white place) to the bakin wuri (black place). The farin wuri corresponds to the soils of the white, faded or poor jigawa, when the bakin wuri or baka jigawa designates the sandy "black rich soil characterized by a surface state where algal crusts or ban kwado (toad's back) can appear, and containing some clay. (...) The appearance of the farin wuri (white soil) and of the jambali (deflation surface with an erosion crust) constitutes the main form of soil degradation of these "terroirs". Expressions are used to designate the state of degradation: wuri ya gaju (tired place),</p>	

Comment #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
						<p>wuri ya salatché (fade place, to designate a leached place), wuri ya mutu (dead place). These forms of degradation can be explained by the permanent cultivation noma yau da gobé without fallow."</p> <p>- Sop &amp; Oldeland 2011 (Burkina Faso): (p4) "In all three ethnic groups, more than 90 per cent of species were reported to be in a state of decline: 95 per cent by the Fulani, 95 per cent by the Mossi and 93 per cent by the Samo (Figure 3). Most of these species are plants that are intensively harvested for food and construction purposes: Tamarindus indica, Adansonia digitata, Mitragyna inermis, Pterocarpus lucens, Anogeissus leiocarpus, Boscia senegalensis, Diospyros mespiliformis, Parkia biglobosa, Vitellaria paradoxa, Bombax costatum, Combretum micranthum and Sclerocarya birrea (Appendix 2a). The majority of these species are typical parkland species that are generally conserved on new farmlands for their inherent value." (p4) "Most species perceived to be declining and threatened include parkland species such as P. biglobosa, A. digitata, T. indica and B. costatum. These plants are among the most relevant of Burkina Faso for their importance in supplying local people with food, income and ecosystems services such as soil</p>	

Comment #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
						fertilization, shade and erosion control (Teklehaimanot, 2004; Nikiema, 2005)." (p8) " In this study, more than 80 per cent of the species identified by informants were considered to be declining, and more than a third of the species listed were declared to be endangered. This suggests that the degradation of woody vegetation is not a localized problem, but is widespread across the Sub-Saharan area. Some species such as <i>B. aegyptiaca</i> and <i>A. seyal</i> have been recorded to be increasing in abundance. However, the general perception appears to be that most species are in decline. Similar trends have been found in the North Sahelian and Sahelo-Sudanian zones of Burkina Faso, as well as in the West African Sahel (Lykke et al., 2004; Wittig et al., 2007; Lykke, 2000; Wezel and Lykke, 2006; Ayantunde et al., 2008; Vincke et al., 2010)."	
174	German IPBES Coordination office and national scientists (IPBES)	28	732	28	754	Why the focus on genetic resources here in contrast to all previous parts?	Genetic resources to be integrated in other sections

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
175	Aisha Elfaki (AE)	28	732	29	768	I think this is more details about genetic resources and it will be more perfect if put after the line 197 page 6	Noted
176	Josiane Seghieri (JS)	28	757	28	757	Change « As underlined by the (SCBD, 2002) » to be clarified by the what ?	Changes made as suggested
177	German IPBES Coordination office and national scientists (IPBES)	29	767	29	768	This is very general and very short as compared to the previous section.	Noted
178	German IPBES Coordination office and national scientists (IPBES)	29	770	29	775	A map related to CITES seems of great interest.	Agreed. We therefore request suggestion on sources to consider in an attempt to producing such a map
179	Abdelfattah Badr (AB)	29	773			Who says I d'nt think we etc ; the article is written by several authors	noted
180	Andriamahazo Michelle (AM)	30	783	30	1	08 sub sections to be developed /written	Section will be written and all gaps filled
181	Abdelfattah Badr (AB)	30	789			Leave space between Fresh and water	Changes made as suggested

182	Ouattara Allassane (OA)	30	789	30	791	<p>3.4.5.2. Freshwater and inland waters</p> <p>For a long time, the African environment has been relatively preserved from serious anthropogenic threats. This is no longer the case, and several threats presently affect both the hydrological and biological resources, with the rate of loss of freshwater biodiversity in some areas already suspected to be high (Paugy and Lévêque, 2011).</p> <p>There have been several attempts to delineate geographic areas across West Africa based on the origins and similarities of the aquatic fauna. According to Hugueny &amp; Levêque (1994) similarities between the freshwater fish faunas of 52 west African rivers have been investigated and three main zoogeographic regions recognized. 443 species of fish (species tolerant to salt water and lacustrine endemics species have been discarded) were considered from a total of 743 known to occur in 52 rivers. These delimitations give an highly significant within region faunal homogeneity, even if the effect of geographical proximity between rivers is removed. 21 to 71% of the fish species in each region are endemics. Some areas in western Africa, such as Ivory Coast and Benin, have been reasonably well investigated, while others, such as Guinea, are still poorly known.</p> <p>Bouchet and Gargimony (in Groombridge</p>	Changes made as suggested
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					<p>and Jenkins 1998) provide a generalised map of the projected hotspots of molluscan freshwater diversity in the world, highlighting various parts of Africa, namely the East African Rift Valley Lakes and the river rapids of western Africa. A number of anthropogenic threats to freshwater ecosystems are recognised to operate at the continental scale, including: habitat loss or transformation; water extraction and hydrological disruption; invasive alien species; pollution; and overexploitation. While it is difficult to imagine a direct relationship between the presence of forest and an aquatic fauna there is good evidence that forests promote increased humidity, rainfall, and water retention that are essential to the survival of aquatic species. Several groups of fishes, especially the Cyprinodontiformes have evolved in the swampy understory of this tropical forest; there are not present in grasslands or savanna. The species richness of the group of Aplocheilidae is directly related to the amount of plant cover. This family reaches 11 genera and 63 species in West Africa (Stiassny et al., 2007).</p> <p>3.4.5.2.1. Lakes and ponds The lakes and ponds provide potable water for human and livestock use, irrigation water for agriculture, are a means of transportation of goods and generate hydro-</p>	
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					<p>electric power and are a source of revenue from fishing and eco-tourism. Generating deep concern are the declines biodiversity and the deterioration in water quality. Over the past decade, many West African lakes and ponds have experienced increasing eutrophication and associated degradation. Indeed, anthropogenic impact on the aquatic ecosystems due to the use of agricultural fertilizers and untreated wastewater has drastically changed their chemical and physical properties, especially enrichment of organic matter and nutrient concentrations. Although these environmental conditions favor the growth of a highly diverse groups of algae (green algae, flagellate algae), Cyanobacteria and aquatic plants such as Eichhornia crassipes, Pistia stratiotes and Salvinia molesta. A direct impact of eutrophication is a change in the structure of biodiversity, or even elimination of components of biodiversity. Loss of components of biodiversity resulting also from overfishing.</p> <p>Regarding the consequences of climate warming on lakes and ponds, studies do not specifically address climate-driven changes. However, some tendencies have been noted. Much of what is happening to lakes and ponds across West Africa is attributable to years of drought that have reduced river inflows and rising temperatures and caused increased evaporative water loss.</p>	
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					<p>3.4.5.2.2. Rivers and streams</p> <p>The Upper Guinea Rivers and Streams encompassing areas of Côte d'Ivoire, Guinea, Sierra Leone and Liberia have been identified as a WWF Global 200 site. This site is recognised as a critical region for freshwater conservation due to high levels of endemism due to the isolated habitats for species adapted to turbulent, fast-flowing rivers (WWF, 2001).</p> <p>The Upper Guinea ecoregion is considered a centre of species richness and endemism for freshwater fish, molluscs and crustacea because of the more or less permanently wet conditions in the Guinean mountain range (Groombridge and Jenkins, 2002; Hugueny and Lévêque 1994, Smith et al., 2009; Thieme et al. 2005). These mesic regions of whitewater, blackwater and clearwater streams contain the richest and most ecologically-diverse fish faunas on the continent with many endemic species (WWF, 2001; Winemiller et al., 2008).</p> <p>Freshwater environments are not only vital for the aquatic species that inhabit them, but also for people and there is a strong dependency on the use of water resources for a wide range of uses from drinking to agriculture.</p>	
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Comment #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
183	Josiane Seghieri (JS)	30	790	30	791	Move lines 798-799 concerning Lake Chad to the paragraph 3.4.5.2.1. Lakes and ponds. In addition, information on the Chad lake biodiversity can be found in IRD documents such as « Le développement du Lac Tchad : situation actuelle et futurs possibles : expertise collégiale réalisée par l'IRD à la demande de la Commission du Lac Tchad. Contributions intégrales des experts » 2014, especially chapter I- 4. Variabilité des paysages et de la biodiversité du Petit lac Tchad by B. NGOUNOU NGATCHA and J. LEMOALLE	Changes made as suggested
184	Ouattara Allassane (OA)	30	802	30	805	<i>3.4.5.3.1. Coastal and estuarine systems</i>	Section will be written and all gaps filled
185	Andriamahazo Michelle (AM)	30	803	30	807	04 sub sections to be developed/written	Section will be written and all gaps filled
186	German IPBES Coordination office and national scientists (IPBES)	30	808	31	825	This synthesis is too unspecific and poorly related to the previous text.	agree. The synthesis omitted
187	William Olupot (WO)	31	809	31	810	the grammar needs to be corrected	Grammar corrected

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
188	Safaa A. Ghoneim (SAG) (SAG)	31	826	the end of this chapter		the following references could fill some gaps of information: Ghoneim, S.A. 2003 The Sustainable Development of the Egyptian Coastal Lagoons, Cairo University Ghoneim, S.A. 2008 ESI as an effective tool for Environmental Planning in Coastal Lagoons, AESOP, Qeen University	Thank you1 References to be added
189	Aisha Elfaki (AE)	31	832	31	832	Bellwood, D.R., Hoey, A.S., Choat, H.( 2003 ).Limited functional redundancy in high diversity systems: resilience and ecosystem function on coral reefs. Ecology Letters 6: 281-285	To be added
190	German IPBES Coordination office and national scientists (IPBES)	31				An Africa map related to the main observation region and biodiversity states would be helpful.	Added in chapter 1
191	Abdelfattah Badr (AB)	32	878			Complete the refrence information by adding title	Done
192	Aisha Elfaki (AE)	32	881	32	881	FAO (2012), Food and Agriculture Organization of the United Nations Regional, Sudan Institutional Capacity Program: Food Security Information for Action (2012): Land Cover Atlas of Sudan	To be added

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
193	Aisha Elfaki (AE)	34	954	34	954	Nasr, D and Al-Sheikh, K.(2000) . Assessment of coral reef in the Sudanese Red Sea in the context of coral bleaching . In Proceeding of the International Workshop on the Extent and Impact of Coral Bleaching in the Arabian Region ( H. Tatwany ,ed) .National Commission for Wildlife Conservation and Development , Riyadh.	Reference to be added as suggested
194	Aisha Elfaki (AE)	34	969	34	969	PERSGA, (2006). Report on the State of Marine Environment in the Red Sea and Gulf of Aden . PERSGA, Jeddah	Reference to be added as suggested
195	Aisha Elfaki (AE)	34	970	34	970	PERSGA/GEF (2003b ).Coral Reefs in the Red Sea and Gulf of Aden Surveys 1990 to 2000 Summary and Recommendations.PERSGA Technical Series No. 7. PERSGA , Jeddah	Reference to be added as suggested
196	Aisha Elfaki (AE)	34	971	34	971	PERSGA/GEF( 2004b) . Status of mangroves in the Red Sea and Gulf of Aden. PERSGA Technical Series No. 11. PERSGA, Jeddah.	Reference to be added as suggested
197	Aisha Elfaki (AE)	34	972	34	972	PERSGA/GEF( 2004f) . Survey of the proposed marine protected area at Dungonab Bay and Mukawwar Island , Sudan . Report for PERSGA. PERSGA, Jeddah .	Reference to be added as suggested
198	Aisha Elfaki (AE)	34	973	34	973	PERSGA/GEF 2004. Survey of the Proposed Marine Protected Area at Dungonab Bay and Mukawwar Island, Sudan. Report for PERSGA. PERSGA, Jeddah.	Reference to be added as suggested

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
199	Aisha Elfaki (AE)	34	977	34	977	RPGD ,Range and Pasture General Directorate (2013): working paper on: on Role of Natural Forage Plants Diversity in Pastoral and Agro-pastoral communities Livelihoods ,Sudan	Reference to be added as suggested
200	Susan Ringrose (SR) (SR)		59			Indicate specifically what these freshwater species are	Noted. We will provide this information as we develop SOD
201	Susan Ringrose (SR) (SR)		162			Insert 'oil' after argan	Done
202	Susan Ringrose (SR) (SR)		175			Indicate which species	Done
203	Susan Ringrose (SR) (SR)		222		229	Discuss the significance of species listings under CITES - differentiate between Appendix I, II and III.	Noted
204	Susan Ringrose (SR) (SR)		234			Paragraph needed to summarise the importance of data shown on Table 3.2. Also explanation required as to the units on the table.	Explanation to be provided
205	Susan Ringrose (SR) (SR)		238		239	Southern Africa (the region) is emphatically not synonymous with South Africa (the country)	Noted
206	Susan Ringrose (SR) (SR)		240		245	What are these sections?	Comment not clear
207	Susan Ringrose (SR) (SR)		263			Table 3.4 Are these threatened or endemic species?	Threatened endemic species

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
208	Susan Ringrose (SR) (SR)		277			What is the relevance of the Ocean Health Index in this context? Shows coastal impacts only so lines 280-292 are not indicative of overall trends - except perhaps marine biodiversity - use one of the numerous African ecosystem / biodiversity hotspots maps on web	The freshwater biodiversity intactness.
209	Voahangy Raharimalala (VR)		295			This is a document for Madagascar and Indian Ocean Hot spot : <a href="http://www.cepf.net/SiteCollectionDocuments/madagascar/EcosystemProfile_Madagascar_EN.pdf">http://www.cepf.net/SiteCollectionDocuments/madagascar/EcosystemProfile_Madagascar_EN.pdf</a>	Reference to be added as suggested
210	Susan Ringrose (SR) (SR)		297		332	Try and use examples that are typical of the region	Noted
211	Susan Ringrose (SR) (SR)		336		339	Indicate how and where this is occurring	Comment not clear
212	Susan Ringrose (SR) (SR)		359			Use heading or caption to show differences between a) and b)	Changes made as suggested
213	Susan Ringrose (SR) (SR)		438		493	How is Sudan typical or representative of North Africa? Need a map of Sudan (and the region) showing projects and locations mentioned in text	Such a map is added in Chapter 1 of the assessment report
214	Susan Ringrose (SR) (SR)		661			Expand on Gariep biomes and their significance (show location on map)	changes to be made as suggested
215	Susan Ringrose (SR) (SR)		670			Explain how and why aspects of South Africa are representative of southern Africa	Explanation to be provided

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
216	Susan Ringrose (SR) (SR)		697			Invasive species include <i>Salvinia molesta</i> and <i>Pistia stratiotes</i> which are threatening to plug up waterways of the Okavango delta (Botswana)	Comment shared with chapter 4. Chapter 4 looks at invasive species as driver of biodiversity and ecosystem services loss
217	Susan Ringrose (SR) (SR)		704			Table 2.1.1 requires explanation and narrative in text	Comment not clear
218	Andriamahazo Michelle (AM)		706			Fig 3.8 : what is the title and the source	Source to be added
219	Susan Ringrose (SR) (SR)		720			Consider the ODMP report on human impacts on the Okavango	Thank you.
220	Susan Ringrose (SR) (SR)		796			Need to expand on the significance of the Niger delta - which has long been used by local people for rice cultivation	To be expanded
221	Susan Ringrose (SR) (SR)		42 onwar ds			Africa is NOT a region but one of the most diverse continents on the planet. Keep terminology consistent - later Line 239 you refer to West Africa as a region which is more correct.	Noted
222	Voahangy Raharimalala (VR)					Write the name of countries by subregion at the beginning of each sub chapter: 3.4.1, 3.4.2, 3.4.3 and 3.4.5	Listed in Chapter 1 and within Africa assessment scoping document
223	Voahangy Raharimalala (VR)					Table 3.3 and 3.4 should go under sub chapter 3.3.2 on biodiversity	Noted

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
224	Ouattara Allassane (OA)					Coastal and estuarine systems are a heritage and a major interest in human activities. These remarkable ecosystems, supporting traditional activities, economic and recreational, however, are threatened by two main factors: eutrophication and silting. Their water catchment areas are endowed with high agricultural and other human activities which compromise the quality of their water body. Most polluted lagoons are located in urban areas. They serve as a cesspool for most of town's industrial and municipal wastes. In rural regions, the lack of sanitation facilities has turned the shores of many lagoons into a giant latrine for various communities in the immediate area. The excess loads of nutrients in the lagoon have caused serious eutrophication. The resultant fall in oxygen levels within the lagoons has led to the extinction of most aquatic life forms and an ecological imbalance within the lagoons and along its shore.	Suggested changes to be incorporated as we develop SOD
225	Ouattara Allassane (OA)					3.4.5.3.2. <i>Near-shore marine ecosystems</i>	Noted

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
226	Ouattara Allassane (OA)					The nearshore marine environment serves as a nursery area for fishes and macro-crustaceans (feeding and spawning) and as a shelter from predation. Macro-algae may occur in rocky areas of nearshore waters and contribute to primary production of such areas. They also provide shelter for juvenile fish as well as protect them from predators.	Suggested changes to be incorporated as we develop SOD
227	Ouattara Allassane (OA)					Several ports are located in this region, including political capital. Most artisanal fishermen operate in this area; their operation is labour intensive and they use relatively unsophisticated gear such as beach seines. The catch composition in beach seine nets varied with time but was usually composed of targeted fish (including <i>Sardinella maderensis</i> ; <i>Sphraena sphyraena</i> ; <i>Brachydeuterus auritus</i> ; <i>Ilisha africana</i> ; <i>Chloroscombrus chrysurus</i> ; and <i>Pseudolithus senegalensis</i> ) and crustaceans (including Pink shrimp, <i>Penaeus notialis</i> and Lobster, <i>Panulirus regius</i> ).	Thank you. Information incorporated
228	Ouattara Allassane (OA)					3.4.5.3.3. Mangroves	Noted

Comm ent #	Reviewer Name	From Page (start)	From Line (start)	To Page (end)	To Line (end)	Comment	How to Address
229	Ouattara Allassane (OA)					West Africa mangroves forests are mainly composed by <i>Rhizophora racemosa</i> and <i>Avicennia Africana</i> . These mangroves are being overexploited in certain areas and the wood is used for a variety of purposes, e.g. building, charcoal etc. Sand extraction for building houses also contributes to the destruction of mangroves. Mangroves host a rich and diverse assemblage of fauna (fish, shrimp, bird etc.).	Thank you. Information incorporated
230	Voahangy Raharimalala (VR)					Other documents on Marine Ecosystems Diagnostic Analysis produced during ASCLME project : <a href="http://www.asclme.org/reports2013/National%20MEDAs/">http://www.asclme.org/reports2013/National%20MEDAs/</a> for Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa, Tanzania in 2014	References to be added as suggested
231	Voahangy Raharimalala (VR)					In general more documentation should be made. There are so many data that are lacking in this chapter	Noted
232	Diane Douglas (DD)					General comment -- the chapter is almost too early in its production to be reviewed. There are many sections that are yet to be developed. It would be interesting to re-review once the chapter is fully drafted.	That's true. We hope to further develop all the sections and fill in existing gaps before submission of SOD