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Items resulting from the work programme of the Science-Policy Interface for the biennium 2016–2017
Rehabilitation, restoration and reclamation measures and practices in degraded lands

Report by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services on the Land Degradation and Restoration Assessment

Summary

By its decision 21/COP.12, the Conference of the Parties (COP) adopted the work programme of the Science-Policy Interface (SPI) for the biennium 2016–2017 which contains coordination activities with, inter alia, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). Specifically, the SPI was mandated to follow up and contribute to the thematic assessment of land degradation and restoration conducted by IPBES.

By the same decision, the SPI was requested to report to the thirteenth session of the Committee on Science and Technology (CST) on the coordination activities conducted during the biennium 2016–2017.

The present document contains a progress report on the development of the thematic assessment of land degradation and restoration as well as information on the steps towards completion in March 2018. It is intended to complement the information contained in document ICCD/COP(13)/CST/5. The information contained in the present document may also inform the deliberations of the CST and COP on the work programme of the SPI for the biennium 2018–2019.

The present document has been prepared by the secretariat of IPBES. It is reproduced as submitted and without formal editing.

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Contents

I. Introduction to IPBES

A. IPBES Background

1. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) is the intergovernmental body (with 127 government members), which assesses available knowledge on the state of biodiversity and of the ecosystem services it provides to society, in response to requests from decision makers. IPBES has a collaborative partnership agreement with four United Nations entities: UN Environment, UNESCO, FAO and UNDP and is administered by UN Environment. Its secretariat is hosted by the German government and located on the UN campus, in Bonn, Germany. One thousand scientists from all over the world currently contribute to the work of IPBES on a voluntary basis. They are nominated by their government or an organisation, and selected by the Multidisciplinary Expert Panel, the scientific body of IPBES appointed by the Plenary. Peer review forms a key component of the work of IPBES to ensure that a range of views is reflected in its work, and that the work is completed to the highest scientific standards.

B. IPBES Functions

2. IPBES engages scientists and other knowledge holders around the world to review and assess the most recent scientific and technical information produced worldwide in relation with biodiversity and ecosystem services. The work of IPBES is centred around four complementary core functions:

(a) Assessment – Deliver global, regional and thematic assessments of knowledge regarding biodiversity and ecosystem services;

(b) Knowledge generation catalysis – Identify knowledge gaps, and catalyze efforts to generate new knowledge;

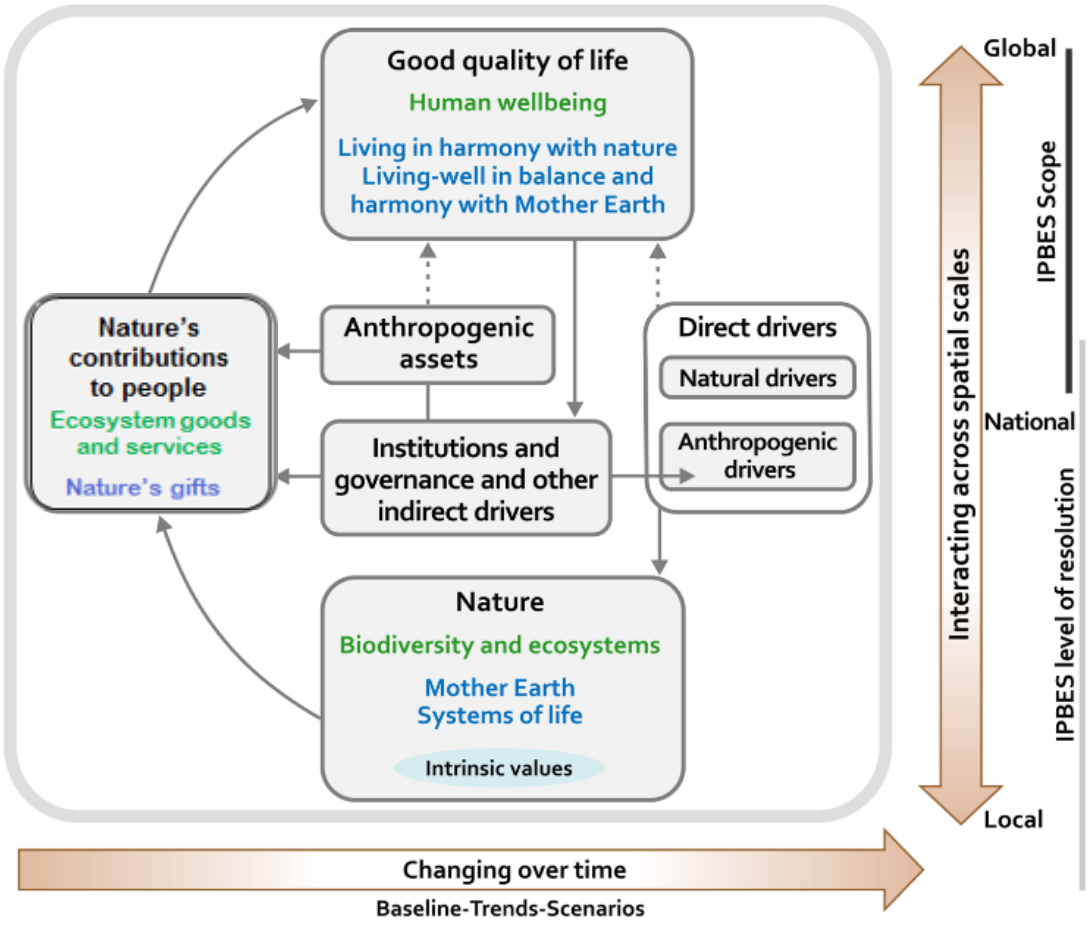
(c) Policy Support Tools – Identify policy relevant tools/methodologies, facilitate their use, and promote and catalyse their further development;

(d) Capacity Building – Increase capacity at different levels: for example, strengthen the capacity of the scientific community to contribute to IPBES (e.g. the early career fellows programme) and strengthen the capacity of policymakers to use assessments and other products of IPBES (e.g. science-policy dialogues between experts and Governments).

C. IPBES Conceptual Framework

3. At its second session, the Plenary of IPBES, in its decision IPBES-2/4, adopted a conceptual framework to guide its work (Diaz et al. (2015); see Figure 1). The conceptual framework is made of six boxes: nature, nature's benefits (subsequently changed into "contributions") to people, anthropogenic assets, indirect drivers of change (such as institutions and governance systems), direct drivers of change, and good quality of life. This framework is innovative in that it is very inclusive and explicitly embraces different scientific disciplines (natural, social, engineering sciences), as well as diverse stakeholders (the scientific community, governments, international organizations, and civil society at different levels), and their different knowledge systems (western science, indigenous, local and practitioners' knowledge). The framework also places a major emphasis on the crucial role of human institutions as a source of both environmental problems and solutions.

Figure 1
Conceptual Framework for the work of IPBES



Note: This conceptual framework is made of boxes and arrows which represent the elements of nature and society that are the main focus of IPBES. In each of the boxes, the headlines in bold are inclusive categories of relevance to all stakeholders of IPBES and embrace the categories of western science (in green) and equivalent or similar categories according to other knowledge systems (in blue). The blue and green categories mentioned here are illustrative and not exhaustive. Solid arrows in the main panel denote influence between elements. The dotted arrows denote links that are acknowledged as important, but are not the main focus of IPBES. This figure is reproduced (with the modification of the original name nature's benefits to people into nature's contributions to people) from Díaz et al. (2015) "A Rosetta Stone for Nature's Benefits to People." PLOS Biology 13: 1.

II. The IPBES Land Degradation and Restoration Assessment

A. Overall presentation

4. The thematic assessment of land degradation and restoration has been undertaken in response to a request from the IPBES Plenary, originating from requests made to IPBES by

several multilateral environmental agreements (CDB, UNCCD), several governments and several non-governmental stakeholders (IPBES/2/INF/9). At its second session, the IPBES Plenary, held in Antalya, Turkey (9-14 December 2013), approved the initiation of scoping for that assessment. At its third session, the IPBES Plenary approved the scoping report, developed by an expert group, containing a chapter outline for the assessment, a timeline and a budget (Annex VIII to decision IPBES-3/1) and approved the undertaking of that assessment for consideration by the Plenary at its sixth session (March 2018).

B. Context

5. The overall scope of the thematic assessment of land degradation and restoration is to critically evaluate available knowledge: on the extent, causes and processes of land degradation, and the consequences for biodiversity and people; on responses to avoid land degradation and restore degraded lands; on a range of plausible development scenarios and their implications for land degradation and restoration; and on decision support for addressing land degradation problems and restoring degraded land. The assessment encompasses all the terrestrial regions and biomes of the world, recognizing that land degradation drivers and processes can vary in severity within regions and countries as much as between them. The assessment encompasses the full range of human-altered systems, including but not limited to drylands, agricultural and agroforestry systems, savannahs and forests and aquatic systems associated with these areas.

6. This expert-led assessment will provide the information and guidance necessary to support stakeholders working at all levels to reduce the negative environmental, social and economic consequences of land degradation and to rehabilitate and restore degraded land to aid the recovery of nature's benefits to people. It draws on information from scientific, indigenous and local knowledge systems to increase awareness and identify areas of concern. It will help to identify potential solutions to the challenges posed by land degradation, informing decision makers in public, private and civil society sectors.

C. Composition of the expert group

7. A group of 86 experts composed of 2 co-chairs, 18 coordinating lead authors (CLAs) and 66 lead authors (LAs) was selected, from nominations received from governments and other stakeholder, by the Multidisciplinary Expert Panel (MEP; see Appendix II for the updated list of experts).

8. Together with all contributing authors, who can be called upon to provide punctual help on specific products (e.g. maps), the total expert group taking part in the assessment extends to over 160 experts from 72 countries.

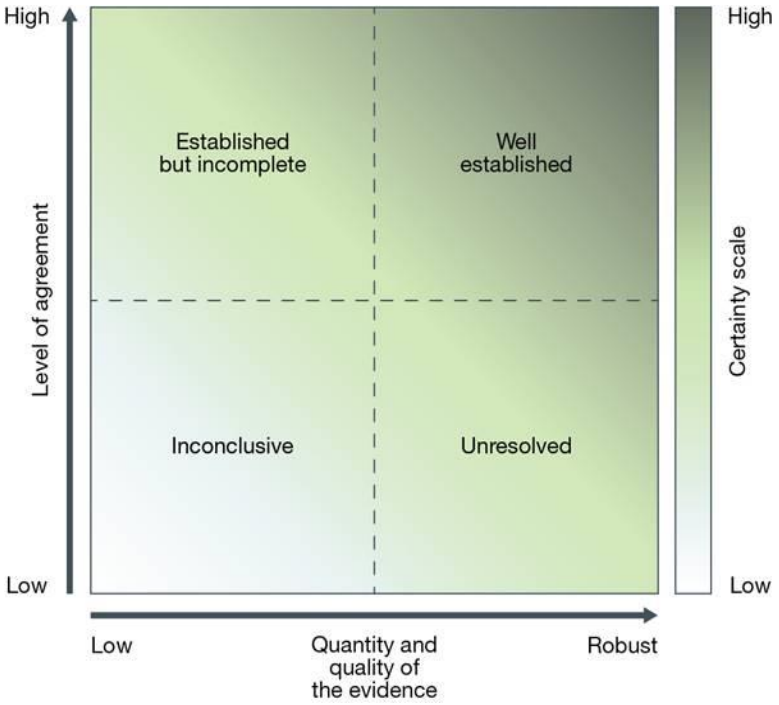
D. Outline of the assessment

9. The assessment is composed of a summary for policymakers and a set of eight chapters (see Appendix I for chapter outline). Each chapter includes an executive summary, which presents key findings and policy-relevant conclusions. In drafting the chapter content and the accompanying executive summaries, the expert group has gone through over 3200 peer-reviewed publications. The chapters themselves have gone through two rounds of external review to ensure transparency, inclusiveness and scientific credibility.

10. The summary for policymakers (SPM) is a high-level, synthetic and policy-relevant document that draws from the key findings of the executive summaries of the underlying chapters. The SPM will be considered by the next session of the IPBES Plenary for

approval, that is subjected to a line-by-line negotiation process. Each message in the SPM will be accompanied by a confidence statement in accordance with the framework used by IPBES and shown below.

Figure 2
The four-box model for the qualitative communication of confidence



Note: Confidence increases towards the top-right corner as suggested by the increasing strength of shading

E. The phases of the assessment

11. The assessment follows the following cycle, including three author meetings, and the production of a first draft of the chapters; reviewed by peers), a second draft of the chapters (reviewed by peers and governments), and the production of a final draft for the Plenary. The first draft of the SPM is produced in parallel with the second draft of the chapters, and reviewed by peers and governments. A final draft of the SPM is then produced for the Plenary. The main phases of the assessment are outlined below:

Table
Main phases of the assessment

Sept 2015	First author meeting
Jun – Jul 2016	First external review by experts of the First Order Draft of the chapters

Aug 2016	Second author meeting
May – Jun 2017	Second external review by governments and experts of the Second Order Draft of the chapters and the First Order Draft of the Summary for Policymakers
July 2017	Third author meeting
Aug – Nov 2017	Revision and finalization of the chapters and Summary for Policymakers
March 2018	6th session of the IPBES Plenary to consider the assessment report on land degradation and restoration, including its summary for policymakers (SPM is considered for approval, and chapters for acceptance by Plenary)

III. Past and future collaboration between IPBES and SPI of UNCCD

A. Engagement at the external review phase

12. One of the most important phases for an assessment is the period in which they are open for external review by any interested expert, ranging from scientists and decision-makers, to practitioners and the holders of indigenous and local knowledge. As outlined in the above timetable, IPBES held two rounds of external reviews. The call for external review was announced 6-8 weeks prior to its start, and each time members of the SPI were kindly invited to provide feedback via UNCCD focal points. The members of the SPI and UNCCD Secretariat have submitted comments in each round of the review phase.

13. The assessment report received a total of 2277 comments from 85 external reviewers in the first round and a total of 5053 comments from 131 external reviewers (including governments and scientific bodies) in the second round of the external review phase. The overall feedback and specific comments from each round provided the basis for the revisions of the chapter and SPM drafts. Comments received together with their responses will be made available on the IPBES website following the next Plenary (March 2018).

B. Opportunities for future collaboration

14. As one of its first deliverables, IPBES produced a policy relevant assessment of Pollinators, Pollination and Food Production. The findings of this assessment have catalyzed a number of actions at governmental level (e.g., formation of a “Coalition of the Willing” by a growing number of governments to protect pollinators and to promote pollination; incorporation of assessment findings into national strategies in an increasing number of countries; etc.). Of particular relevance is the decision taken by CBD COP-13 (decision XIII/15), prepared by CBD SBSTTA-20 (recommendation XX/9), on the implications of the IPBES assessment on pollinators for the work of the convention.

15. In a similar spirit, the assessment report on land degradation and restoration aims to provide credible scientific foundation that can become a reference point for informed policy- and decision-making related to land degradation and restoration options. IPBES welcomes the aforementioned engagement of the SPI in the review process of the

assessment report and looks forward to continued collaboration with the SPI in its new work programme (2018-2019).

16. It is hoped that the key messages of the land degradation and restoration assessment that are relevant to the United Nations Convention to Combat Desertification will be able to inform the deliberations of the SPI, the Committee on Science and Technology and the Conference of the Parties to the Convention, as appropriate, on further action under the convention.

Annex I

Outline of the Land Degradation and Restoration Assessment

Chapter 1	**Benefits to people from avoidance of land degradation and restoration of degraded land.** This chapter will present a brief summary of the benefits to human well-being and quality of life that can be achieved by the halting, reduction and mitigation of degradation processes as well as the restoration of degraded land. The chapter will draw on information and insights from all other chapters, highlighting examples of success stories of how land conservation and restoration measures have helped to deliver improvements in livelihoods, reduce poverty and strengthen the long-term sustainability of land use and the extraction of natural resources.
Chapter 2	**Concepts and perceptions of land degradation and restoration.** This chapter will focus on assessing and comparing differing concepts and perceptions of land degradation and restoration, stemming from both science and other knowledge systems, including indigenous and local knowledge. It will also review concepts and approaches used to assess the diversity of land degradation processes, the status of ecosystems and the impact thereon, as well as concepts and approaches used to describe different responses, including rehabilitation and restoration.
Chapter 3	**Direct and indirect drivers of land degradation and restoration.** This chapter will assess how land degradation and restoration are the result of multiple drivers, involving both direct anthropogenic and natural factors and interactions between them, as well as underlying indirect drivers. Direct drivers of degradation (e.g., unsustainable levels of biomass extraction and extractive industries) can result directly in degraded land, including reduction in the productivity of land, or in processes such as soil erosion due to unsustainable land management techniques, and natural drivers, such as floods, wind and drought, that result in land degradation**.** Direct drivers of restoration, encompassing both passive and active approaches, can result in either halting or reducing degradation and in the recovery of biodiversity and ecosystem functions. Indirect drivers of land degradation and restoration are related to institutions and governance systems, as well as social, cultural, technological and economic factors, including poverty, which underpin direct drivers, at the local to global levels. The chapter will assess the extent and severity of different drivers and how they vary within and between different biomes, regions and land-use systems around the world. The assessment of direct drivers will include anthropogenic drivers at global, national, regional and local scales, including human-driven climate change, as well as natural drivers and interactions between anthropogenic and natural drivers. Particular attention will be paid to climate change and its interaction with other anthropogenic drivers of land degradation, including interactions between processes of land degradation and extreme weather events.
Chapter 4	**Status and trends of land degradation and restoration and associated changes in biodiversity and ecosystem functions.** This chapter will focus on the status and trends of land degradation and restoration in terms of changes in biodiversity and ecosystem functioning, as well as the degradation and restoration processes that result in those changes. Degradation processes include soil erosion, contamination, compaction, sealing, sedimentation, loss of organic matter, soil and water salinization, degradation of freshwater systems, invasion of alien species, changes in natural fire regimes and pollution. Degradation can also include landscape-scale processes such as changes in ecological connectivity, land cover and land use and changes in land management practices. Restoration processes include the avoiding, halting and reversing of degradation processes as well as the recovery of biodiversity and ecosystem functions. The chapter will assess levels of land degradation and restoration with regard to the type, extent and severity of changes in both biodiversity and ecosystem structure and functioning in different biomes and under different land-use and management systems. Changes in biodiversity include changes to both wild biodiversity and agrobiodiversity, including both above-ground and below-ground biodiversity. Changes in ecosystem structure and functioning include aspects such as primary productivity, nutrient cycling and the provision of habitat for species. Particular attention will be given to understanding system resilience (capacity to recover systems

	structure and functions following a perturbation), including the potential for thresholds and sudden changes in key attributes of biodiversity and critical ecosystem functions.
Chapter 5	**Land degradation and restoration associated with changes in ecosystem services and functions and human well-being and good quality of life**. This chapter will focus on the impact of land degradation and restoration on changes to the delivery of nature's benefits to people and the resultant impact on quality of life. The chapter will assess land degradation associated with the loss of benefits to people including provisioning services, such as food production, quality and quantity of water resources, and availability of raw materials, as well as regulating, cultural services and other aspects of nature, recognizing a diverse conceptualization of the values of nature. The chapter will analyse changes in benefits to people in terms of the relative contribution of biodiversity and ecosystem structure and functioning and that of anthropogenic assets (e.g., technologies, knowledge) applied by people in the co-production of benefits. The impact on the diverse dimensions of a good quality of life will include the impact on health, poverty, income-generating opportunities, meaningful livelihoods, the equitable distribution of natural resources and rights and values considered important in different cultures. The chapter will consider the diverse costs of land degradation and benefits of restoration for people, including the overall economic and non-economic costs and benefits, encompassing those that are associated with the area of degraded or restored land itself, as well as costs or benefits borne by people in other areas who are affected by degraded or restored sites. For both land degradation and restoration, the chapter will examine the type, extent and severity of these changes in different social-ecological systems in different land cover and land management systems, including their implications for social and ecological stability and resilience and cultural integrity.
Chapter 6	**Responses to avoid land degradation and restore degraded land.** This chapter will develop a framework for assessing the effectiveness of existing interventions to prevent, halt, reduce and mitigate the processes of land degradation and to rehabilitate and restore degraded land through the recovery of biodiversity and ecosystem structure and functioning and their benefits to people. The chapter will assess how past and current responses to degradation problems and restoration approaches vary according to context, including the type and severity of land degradation and underlying direct and indirect drivers, as well as the consequences of land degradation and the restoration for nature's benefits to people and quality of life. The chapter will analyse the effectiveness of addressing the indirect causes of land degradation and restoration (institutions, governance systems and other indirect drivers), as compared to efforts to address direct drivers or anthropogenic assets (better techniques, access to training). The chapter will assess the relative success or failure, as well as the potential risks, of different institutional, governance and management response options against a range of social, cultural, economic, technological and political criteria. It will explore how responses to prevent land degradation through sustainable use compare with efforts to deal with its effects through adaptation and restoration. The chapter will also assess different institutional, policy and governance responses based on the type of policy instrument used, as well as support given to research and technology development, institutional reform and capacity-building.
Chapter 7	**Scenarios of land degradation and restoration.** This chapter will explore the implications of a range of plausible development scenarios, including the adoption of different response options across multiple scales, and their implications for land degradation and restoration globally, including impacts on human well-being and quality of life and possible trade-offs between social, economic and environmental objectives. Scenarios will be developed using information derived from the assessment and work from across the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, motivated by a systematic review of other scenario exercises of this type, including the Platform's ongoing methodological assessment of scenario analysis and modelling of biodiversity and ecosystem services, to be released at the end of 2015. The chapter will reveal the variation in plausible land degradation and restoration futures that depend on choices (with associated social and economic implications) made at the landscape, national, subregional, regional and international scales to address indirect and direct drivers and introduce new mechanisms for avoiding land degradation, mitigating its impacts and rehabilitating and restoring degraded sites.

Chapter 8	**Decision support to address land degradation and support restoration of degraded land.** This chapter will consolidate and rationalize information necessary to support evidence-based decision-making and institution-building for policymakers and practitioners responsible for selecting and implementing strategies for addressing land degradation problems and restoring degraded land. The chapter will assess actions necessary to develop institutional competencies in the detection and analysis of land degradation problems and the design, implementation, management and monitoring of response strategies, including data, methods, decision support tools and stakeholder engagement. The chapter will place land degradation problems and potential restoration solutions in the wider policy, socioeconomic and environmental context, emphasizing the importance of institutions, governance and other indirect drivers that are the root drivers of both degradation and restoration. It will consider interactions between land degradation and restoration and other major policy areas such as farming and food, flood risk and water resource management, climate change adaptation and mitigation, invasive species and disease management, biocultural diversity conservation, public health and rural, urban and industrial development.

Annex II

List of experts on the Land Degradation and Restoration Assessment

Role	*Name*	*Affiliation*	*Nominating Country/Organisation*
Assessment co-chairs			
Co-chair	Luca Montanarella	European Commission	Food and Agriculture Organisation
Co-chair	Robert Scholes	University of the Witwatersrand	South Africa
Chapter 1: Benefits to people from avoidance of land degradation and restoration of degraded land			
CLA	Judith Fisher	Fisher Research Pty Ltd	Australia
Co-Chair & LA	Luca Montanarella	European Commission	Food and Agriculture Organisation
Co-Chair & LA	Robert Scholes	University of the Witwatersrand	South Africa
RE	Oumarou Malam Issa	Institute for Research and Development (IRD)	Niger
RE	Pascal Podwojewski	Institute for Research and Development (IRD)	France
Chapter 2: Concepts and perceptions of land degradation and restoration			
CLA	Florent Kohler	Université de Tours	France
CLA	Janne Kotiaho	University of Jyväskylä	Finland
LA	Tao Wang	Chinese Academy of Sciences	China
LA	Shonil Bhagwat	The Open University	United Kingdom of Great Britain and Northern Ireland
LA	Laetitia Navarro	German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig	Group on Earth Observations Biodiversity Observation Network – GEO BON
LA	Robin Reid	Colorado State University	United States of America
Fellow	Maylis Desrousseaux	Lyon 3 University	Environmental law institute - Lyon 3 University
RE	Alejandro Leon Stewart	Universidad de Chile	Chile

Role	*Name*	*Affiliation*	*Nominating Country/Organisation*
RE	Katalin Török	Centre for Ecological Research	Hungary
Chapter 3: Direct and indirect drivers of land degradation and restoration			
CLA	Nichole Barger	University of Colorado	United States of America
CLA	Toby Gardner	Stockholm Environment Institute	Sweden
CLA	Mahesh Sankaran	National Centre for Biological Sciences	India
LA	Patrick Meyfroidt	Le Fonds de la Recherche Scientifique (FNRS) & Université catholique de Louvain	Belgium
LA	Francisco Moreira	Institute of Agronomy	Portugal
LA	Tiina Maileena Nieminen	Natural Resources Institute Finland, Luke	Finland
LA	Toshiya Okuro	University of Tokyo	Japan
LA	Vivek Saxena	Government of Haryana	India
LA (2b)	P. C. Abhilash	Banaras Hindu University	India
LA (2b)	Linda Broadhurst	Commonwealth Scientific and Industrial Research Organization (CSIRO)	Australia
LA (2b)	Violaine Brochier	Electricité de France, Research and Development	France
LA (2b)	Forest Isbell	University of Minnesota	United States of America
LA (2b)	Danielson Ramoz Kisanga	University of Dar es Salaam	United Republic of Tanzania
LA (2b)	Ricardo Ribeiro Rodrigues	Agriculture School-ESALQ - University of Sao Paulo	Brazil
LA (2b)	Alou Adamou Didier Tidjani	Université Abdou Moumouni	Sahara and Sahel Observatory (OSS)
Fellow	Marina Monteiro	Universidade Federal de Goiás	Universidade Federal de Goiás
Fellow	Matthew Ross	Duke Univeristy	Duke University
RE	Valerie Kapos	UNEP World Conservation Monitoring Centre (WCMC)	United States of America
RE	Neil Mckenzie	The Commonwealth Scientific and Industrial Research Organisation (CSIRO)	Australia

Role	*Name*	*Affiliation*	*Nominating Country/Organisation*
Chapter 4: Status and trends of land degradation and restoration and associated changes in biodiversity and ecosystem functions			
CLA	Stephen Prince	University of Maryland	United Nations Convention to Combat Desertification (UNCCD)
CLA	Graham Von Maltitz	Council for Scientific and Industrial Research (CSIR)	United Nations Convention to Combat Desertification (UNCCD)
CLA	Fengchun Zhang	Chinese Rearch Academy of Environmental Sciences	China
LA	Guy F. Midgley	University of Stellenbosch	South Africa
LA	Charles Driscoll	Syracuse University	United States of America
LA	Gil Eshel	Soil Erosion Research Station, Ministry of Agriculture & Rural Development	Israel
LA (2b)	Kenneth Byrne	University of Limerick	Ireland
LA (2b)	German Kust	Moscow Lomonosov State University, Soil Science Faculty	Russian Federation
LA (2b)	Cristina Martínez Garza	University of the State of Morelos	Mexico
LA (2b)	Jean Paul Metzger	University of São Paulo	Brazil
LA (2b)	Mongi Sghaier	Institut des Régions Arides	Sahara and Sahel Observatory (OSS)
LA (2b)	San Thwin	University of Forestry	Myanmar
Fellow	Bernard Nuoleyeng Baatuuwie	University for Development Studies	University for Development Studies, Ghana
RE	Chencho Norbu	Department of Forests and Park Services	Bhutan
RE	James F. Reynolds	Duke University	United States of America
Chapter 5: Land degradation and restoration associated with changes in ecosystem services and functions, and human well-being and good quality of life			
CLA	Barend Erasmus	University of the Witwatersrand	South Africa
CLA	Matthew Potts	University of California, Berkeley	University of California, Berkeley
LA	Sebastian Arnhold	Ecological Services, University of Bayreuth	Germany
LA	Simone Athayde	Federal University of Tocantins	Brazil

Role	*Name*	*Affiliation*	*Nominating Country/Organisation*
LA	Timothy Holland	University of California, Berkley	Canada
LA	Eliška Krkoška Lorencová	Global Change Research Centre, Academy of Sciences of the Czech Republic	Global Change Research Centre, Academy of Sciences of the Czech Republic
LA	Andrew Lowe	University of Adelaide	Terrestrial Ecosystem Research Network
LA (2b)	Sandra Verónica Acebey Quiroga	YPFB Petroandina S.A.M.	Bolivia (Plurinational State of)
LA (2b)	Peter Elias	Department of Geography, University of Lagos	International Social Science Council (ISSC)
LA (2b)	Maria Siobhan Fennessy	Kenyon College	Ramsar Convention Secretariat
LA (2b)	Chuluun Togtohyn	National University of Mongolia	Mongolia
RE	Edson Gandiwa	Chinhoyi University of Technology, Zimbabwe	Zimbabwe
RE	Ephraim Maduhu Nkonya	International Food Policy Research Institute (IFRPI)	IFPRI
Chapter 6: Responses to avoid land degradation and restore degraded land			
CLA	Ram Pandit	University of Western Australia	Nepal
CLA	John Parrotta	International Union of Forest Research Organizations	United States of America
LA	Emilie Coudel	French agricultural research and international cooperation organization (CIRAD)	France
LA	James Harris	Cranfield University	United Kingdom of Great Britain and Northern Ireland
LA	Ádám Kertész	Geographical Institute, Research Center for Astronomy and Earth Sciences, Hungarian Academy of Sciences	Hungary
LA	Juana L. Mariño De Posada	GUT Sas	Colombia
LA	Phumza Ntshotsho	Council for Scientific and Industrial Research	Council for Scientific and Industrial Research
LA (2b)	Daniel Vieira	Embrapa (Brazilian Agricultural Research Corporation)	Brazil
LA (2b)	Yaakov Anker	Samaria and the Jordan Rift R&D center	Samaria and the Jordan Rift R&D center

Role	*Name*	*Affiliation*	*Nominating Country/Organisation*
LA (2b)	Cristóbal Félix Diaz Morejón	Environmental Directorate, Ministry of Science, Technology and the Environment	Cuba
LA (2b)	Noraini Mohd Tamin	University of Malaysia	Malaysia
Fellow	Ruishan Chen	Guoqing Shi	Hohai University
RE	Susan Galatowitsch	University of Minnesota	Ramsar Convention Secretariat
RE	Florencia Montagnini	Yale Climate and Energy Institute	United States of America
Chapter 7: Scenarios of land degradation and restoration			
CLA	Matthew Cantele	International Institute for Applied Systems Analysis	United States of America
CLA	Ben Ten Brink	PBL-Netherlands Environmental Assessment Agency	Netherlands
LA	Aletta Bonn	Helmholtz Center for Environmental Research (UFZ)	Germany
LA	Machteld Schoolenberg	PBL-Netherlands Environmental Assessment Agency	PBL-Netherlands Environmental Assessment Agency
LA	Jonathan Davies	International Union for Conservation of Nature (IUCN)	IUCN (International Union for Conservation of Nature)
LA	Miguel Fernandez Trigoso	German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig	Group on Earth Observations Biodiversity Observation Network – GEO BON
LA	Nathanial Matthews	Consultative Group on International Agricultural Research (CGIAR)	Canada
LA	Joe Morris	Cranfield University	United Kingdom of Great Britain and Northern Ireland
LA (2b)	Klaus Kellner	North West University	South Africa
LA (2b)	Wilson Ramirez Hernandez	Alexander von Humboldt Institute	Instituto Alexander von Humboldt
Fellow	Vanessa Marie Adams	University of Queensland, School of Biological Sciences	University of Queensland, Centre for Biodiversity and Conservation Science
RE	Petr Havlik	International Institute for Applied Systems Analysis (IIASA)	Czech Republic
RE	Yoshiki Yamagata	National Institute for Environmental Studies (NIES)	Japan

Role	*Name*	*Affiliation*	*Nominating Country/Organisation*
Chapter 8: Decision support to address land degradation and support restoration of degraded land			
CLA	Grace Nangendo	Wildlife Conservation Society	Uganda
CLA	Louise Willemen	ITC University of Twente, Netherlands	Netherlands
LA	Nana Bolashvili	Ivane Javakhishvili Tbilisi State University	Georgia
LA	David Douterlungne	CONACyT and IPICyT	Mexico
LA (2b)	Prasanta Kumar Mishra	Indian Council for Agricultural Research (ICAR)	India
LA (2b)	Lindsay Stringer	University of Leeds	United Nations Convention to Combat Desertification (UNCCD)
LA (2b)	Mekuria Argaw Denboba	Addis Ababa University	Ethiopia
LA (2b)	Jayne Belnap	U.S. Geological Survey, National Climate Change and Wildlife Science Center	United States of America
LA (2b)	Ulf Molau	University of Gothenburg	Sweden
LA (2b)	Ravishankar Thupalli	Independent International Forest Biodiversity, ABS and Community Development Consultant	India
Fellow	Sugeng Budiharta	Indonesian Institute of Sciences	Indonesian Institute of Sciences
RE	Pedro Henrique Santin Brancalion	Universidade de São Paulo	Brazil
RE	Mary Kathryn Seely	Desert Research Foundation of Namibia	United States of America

Abbreviations: CLA (Coordinating Lead Author), LA (Lead Author), LA 2b (Land degradation and restoration assessment expert working as thematic expert within the regional assessment), RE (Review Editor). Fellows were selected through the fellowship programme for capacity building of IPBES.