Executive summary

There is growing commitment worldwide to Integrated Landscape Approaches (ILAs) that aim to achieve sustainable and resilient landscapes based on multi-stakeholder negotiation of trade-offs between potentially competing land uses. Targeting whole landscapes, such approaches are promising pathways toward reconciling global targets related to the Sustainable Development Goals (SDGs), the Aichi Biodiversity Targets, the Paris Climate Agreement, and the Bonn Challenge, with national policy objectives and local realities. Operationalizing integrated landscape approaches is, however, still in its infancy and requires guidance and monitoring. With support of the International Climate Initiative (IKI) of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), the Collaborating to Operationalise Landscape Approaches for Nature, Development and Sustainability (COLANDS) initiative addresses this knowledge-implementation gap. It does so through multi-stakeholder consultation, building capacity to implement and evaluate integrated approaches to landscape governance, pilot testing of ILAs, and formulating global and national policy recommendations based on the lessons learned. This book describes insights and findings from the first years of COLANDS' activities.

Chapter 2 draws on recent literature to address four challenges to the implementation and maintenance of integrated landscape approaches: persistent science-practice-policy gaps in environmental governance; engagement of the private-sector; the dearth of evidence of implementation and effectiveness; and monitoring and evaluation. It calls for the implementation, upscaling, monitoring and evaluation of landscape approaches in varied contexts, building on mixed methods, transdisciplinary research and multiple forms of knowledge. The authors emphasize the need to address power differences and to recognize the heterogeneity of stakeholder and resource user groups, in order to achieve inclusive decision-making and landscape governance.

Biodiversity plays an important role in safeguarding food security, livelihoods and human well-being. **Chapter 3** emphasizes the fact that incorporating biodiversity in integrated landscape management strategies is crucial for reconciling conservation and livelihoods in multifunctional landscapes. This requires careful consideration of trade-offs and synergies between biodiversity, ecosystem services and livelihoods at both local and landscape levels. Use of suitable biodiversity indicators, remote sensing, modeling techniques and citizen science programs can facilitate effective monitoring of biodiversity responses to conservation interventions. This can further lead to informed decision-making and sustainable management of landscapes for both biodiversity and livelihoods. The chapter highlights the main biodiversity challenges in the COLANDS countries, Ghana, Zambia and Indonesia.

Navigating the complexity of landscapes and its 'wicked problems' requires governance transformations, multi-stakeholder dialogue facilitated by bridging or boundary organizations, and overcoming disciplinary and administrative 'silos'. Yet, challenges to multi-stakeholder engagement abound: power imbalances, elite capture, a lack of

political will and high transaction costs. **Chapter 4** presents an evidence-based "toolkit" to overcome such challenges. Knowledge co-production, triple-loop learning and seeking consensus in multi-stakeholder platforms; enhancing stakeholders' understanding of landscape dynamics through modeling or scenario building; participatory development of a theory of change; and contextually appropriate incentives for pro-conservation behaviour can stimulate multi-stakeholder engagement in landscape approaches.

Chapter 5 highlights the importance of evaluation to assess the effectiveness and pathways to effectiveness of landscape approaches. Process analysis and impact evaluation can both be used to draw important lessons for the replication of landscape approaches in other contexts. Theories of change can improve the quality and credibility of all types of landscape approach evaluation. In order to allow for generalization, replication or adaptation of early landscape approach experience, such theories of change should integrate local knowledge and perspectives with scientific knowledge and theories. Theories of change are also a useful tool to identify the intervention dimension of landscape approaches and to make decisions about the methods and data to be used.

Building on the principles for integrated landscape approaches, **Chapter 6** presents an overview of methods and data that can be used in landscape approaches. The methods described broadly fall under three themes: back-casting (identifying general historical trends), establishing current baseline conditions (stakeholders, networks, perceptions, subjective well-being, and capacity needs), and forecasting to generate projections of potential or desired futures and aid decision-making (rich pictures and scenario visualization, photovoice, and simulation modeling). Selecting methods that fulfil each of these themes can help to develop a more complete understanding of the past, present and future landscape dynamics and help identify potential needs, opportunities and challenges.

The policy contexts in the three countries of implementation and their alignment with the ten principles of integrated landscape approaches are analysed in **Chapter 7.** Despite differences in contexts and policies, common findings emerge. First, each country's national development plan calls for development that enhances adaptive management (principle 1) to foster a more resilient (principle 9) economy and environment, especially in the face of climate change. Second, the plans recognize multiple land uses (principle 4) and stakeholders (principle 5). These points are fundamental to the landscape approach process. Further, each country's development plan has an element of decentralizing land management rights and responsibilities to different stakeholder groups, but these well-intended policies had yet to be implemented or fell short in practice. In all three countries, there is a need to clarify rights and responsibilities (principle 7), enhance stakeholder capacity (principle 10), and identify common-concern entry points (principle 2) and a negotiated and transparent change logic (principle 6) at all levels from national to local.

Chapters 8-10 depict the contexts for implementing landscape approaches in Ghana, Zambia, and Indonesia. Each of these chapters provide a comprehensive description of the biophysical, socio-economic and governance context in which the landscape approaches will be piloted and documented. The chapters draw on a review of scientific

and grey literature and scoping studies during which representatives of government agencies, NGOs, and representatives of the local population were interviewed.

The **Ghana** chapter depicts a savannah landscape in the north of the country marked by irregular rainfall. The Western Wildlife Corridor was chosen as the COLANDS implementation area. This area contains three community resource management areas (CREMAs) where local governance bodies and platforms engage local communities in the governance and management of natural resources, notably near wildlife reserves and national parks. This setting provides an interesting entry point for the implementation of landscape approaches to address the region's challenges related to climate change, conflicts between landscape users, the misfunctioning of management bodies, and the absence of a solid multi-stakeholder platform to facilitate collaboration and concerted decision-making between all key landscape stakeholders.

Located on a high plateau, Kolomo District in the Southern Province of **Zambia** is a landscape with a cool and dry climate, sandy loam soils, and a natural vegetation consisting of dry forests and woodlands. The Tonga people – the dominant population group – live on the sales of crops (mainly maize), livestock, and fisheries, complemented with the collection of wild fruits, mushrooms and honey, and trade in fuelwood, charcoal and handicrafts. The landscape faces various challenges to which landscape approaches may point to the way forward. Challenges include long-term changes in weather patterns; declining availability of grazing land; conflicts over access to natural resources and absence of conflict management; illegal natural resource use and charcoal production; deforestation; poor coordination between statutory, customary and private policies; incoherent policy guidance; and limited private sector involvement in natural management initiatives. However, enabling policies and stakeholder interest in solving land-use conflicts provide opportunities to implement landscape approaches.

The **Indonesia** chapter zooms in on Kapuas Hulu regency in West Kalimantan, where COLANDS activities focus on two sub-watersheds of the Kapuas watershed, each with distinct characteristics. Environmental, social, economic and governance challenges prevail in the landscape. These are inadequately addressed due to a complex institutional landscape in which national, provincial, regency and village authorities operate with different approaches and overlapping jurisdictions, responsibilities and budgets. The addition of ill-coordinated bilateral, NGO, public-private and private initiatives further complicates effective action. Yet, the work of NGOs has empowered communities and boosted their negotiation skills; made them aware of land-use and conservation issues; and enhanced their communications and networks. They have also continued or commenced community-based conservation-development initiatives, which can be promising entry points for the implementation of a landscape approach, if strengthened and upscaled to district or sub-watershed level. In parallel, existing discussion platforms could play a role in facilitating the necessary links between community, governmental and civic actors in the landscape for collaboration and mutual support.

Chapter 11 provides a synthesis and indicates the way forward.