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LAND-USE PLANNING AND INTEGRATED APPROACHES TO REDUCING EMISSIONS FROM DEFORESTATION AND FOREST DEGRADATION

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KEY MESSAGES

- Interventions under the REDD+ framework can catalyse improved integrated land-use planning (ILUP) from the local to the national scale with the aim of simultaneously meeting multiple policy objectives. ILUP can help to prevent or manage conflicts, address the drivers of forest loss, reduce the degradation of land and natural resources and facilitate ecosystem restoration.

- Success factors for effective ILUP include a participatory and inclusive multi-stakeholder process; accessible data on forests, land use and other relevant matters that support decision-making and monitoring; and spatial analyses to identify where actions are feasible and what benefits can be delivered for the different options under consideration.

- ILUP also needs to be backed by a regulatory framework and supporting investments, including for new land management practices, and by the monitoring and enforcement of plans and appropriate safeguards.

- Enhanced coordination across sectors and levels, key for ILUP, can further help societies to define new norms and build multi-stakeholder processes, thus contributing to transformational change at multiple scales.

INTRODUCTION: AN APPROACH FOR RECONCILING COMPETING LAND USES AND PRIORITIES

The planet and its resources are under pressure. Forests, agricultural land and other natural resources are increasingly subject to conflict, and negotiation is needed on multiple land uses and between users. Integrated land-use planning, which aims to better organize and optimize the use of land and natural resources across sectors and users, is thus an essential pillar of sustainable development (see the definitions in box 1).

Landscapes must meet multiple needs, from providing space for homes and infrastructure to supporting agricultural and industrial production, to conserving and restoring ecosystems and their biodiversity. Ecosystem values are often overlooked in the search for short-term gains and quick economic profits. However, healthy ecosystems, including forests, are vital for human and environmental well-being and they play a role in achieving the Sustainable Development Goals.

The degradation of ecosystems and the services they provide may limit or reverse development in the long term. Integrated planning and action are needed to meet varied expectations and to achieve sustainable development within a landscape.

BOX 1. KEY TERMS.

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Land-use planning. The systematic assessment of land (and associated resource) potential, alternatives for land use, and economic and social conditions in order to select and adopt land-use options (Metternicht, 2017).

Integrated land-use planning (ILUP). Aims to better organize activities and infrastructure across an area, taking into account natural, human, economic and strategic constraints and opportunities. ILUP engages stakeholders from multiple sectors, taking into account different objectives and activities in the landscape and any decisions relating to them, and aims to enable sectors, individually or together, to achieve their goals with minimum conflict and with benefits for society, the economy and the environment (García-Rangel et al., 2017).

Spatial planning. A process of planning that indicates a strategic direction for the development of a given geographic area, states the policies, priorities, programmes and land allocations that will be used to implement the strategic direction, and influences the distribution of people and activities. Spatial plans may be developed at various levels and include urban, regional, environmental, landscape, and marine spatial planning (based on the definition of the European Commission).

Landscape approach. Covers a diversity of approaches, some similar to the "ecosystem approach"; one definition is that landscape approaches "seek to provide tools and concepts for allocating and managing land to achieve social, and environmental objectives in areas where agriculture, mining and other productive land uses compete with environmental and biodiversity goals" (Sayer et al, 2013).

Jurisdictional approach. In the REDD+ context, refers to a government-led, integrated approach under which REDD+ is implemented across one or more legally defined territories, such as provinces, districts or other administrative divisions, to facilitate sustainable economic development and advance relevant environmental/forestry commitments (UN-REDD, 2019).

Deforestation-free. A unique definition of "deforestation-free" has not yet been agreed, with the terms deforestation-free, zero gross/net deforestation and zero illegal deforestation often used interchangeably (Brown and Zarin, 2013; FAO, 2018). It encompasses a number of approaches or commitments made by governments and/or companies, including zero-deforestation commitments and deforestation-free jurisdictional approaches, which focus on combining efforts – for example, by the public and private sectors – to promote sustainable commodity production and reduce or eliminate deforestation in a landscape (Garrett et al., 2019, and Taylor and Streck, 2018, in Hicks and Scott, 2019).

REDD+ can promote ILUP processes, and both are centred on a recognition of the multi-sectoral nature of drivers of change in landscapes. In the case of forests, the production of commodities, including beef, soy, palm oil and pulp and paper, remains the leading cause of deforestation at the global level (Global Forest Watch, 2020). REDD+ strategies increasingly emphasize integration and concerted action across these and other sectors as key to turning the tide on deforestation and degradation.

Most national REDD+ strategies and action plans developed to date include ILUP, either as a REDD+ action, intended to help to tackle drivers of deforestation and forest degradation, or as a cross-cutting tool, to identify priority areas for REDD+ implementation that deliver both carbon and non-carbon benefits.

Over the past 12 years, the UN-REDD Programme has supported 34 countries in developing REDD+ strategies and action plans, as well as supporting 22 countries in identifying priority non-carbon benefits with the aim of integrating them into planning for REDD+. The present brief will share the lessons learned from those experiences, examine the factors that support effective ILUP for REDD+ and look at emerging opportunities.

BEST PRACTICES IN ILUP

Various sectors (such as agriculture, forestry, infrastructure, mining, conservation and tourism) and users have land-use objectives that are not always mutually compatible. When short-term needs and economic gains prevail over longer-term sustainability, inefficient land use and the degradation of natural resources can lead to unsustainable long-term outcomes.

ILUP aims to support more harmonious and sustainable development by better organizing activities and infrastructure across a territory, taking into account natural, human, economic and strategic constraints and opportunities. ILUP comprises both a political and a technical dimension and seeks the optimal use of land and natural resources, thus helping to achieve multiple objectives while minimizing negative impacts. If done well, it can help to reconcile competing land uses, reduce conflicts between users, and reduce and reverse environmental

Provincial REDD+ planning team at work in Viet Nam (Source: IFEE)

degradation. To achieve that, ILUP "translates" a society's development objectives, sectoral plans, and socioeconomic, cultural and environmental aspirations into a plan of action for a land area. Information is required in ILUP to develop diagnostics for both past and present situations, as well as for potential future situations, based on specified objectives and a variety of assumptions. Those inputs inform the participatory development of a shared vision across sectors and users.

That shared vision in turn supports the definition of various ILUP options for the whole territory and supports decision-making through the analysis of pros, cons and trade-offs, and by developing recommendations for solutions that maximize benefits while reducing negative impact. In the context of REDD+, this means examining the impact of proposed policies and measures on forests alongside other criteria.

ILUP requires the integration of the views of the various stakeholders that use, have a mandate for or hold rights over the land and its resources. ILUP is inherently cross-sectoral and must involve multiple stakeholders, including governments,
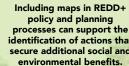
Using spatial information for REDD+ decision-making

When countries plan for REDD+, it is important to consider potential social and environmental benefits and risks, as well as how these vary across the landscape.

Maps can help decision-makers and stakeholders to understand relationships between carbon stocks, ecosystem services, biodiversity, social factors and land-use pressures on natural resources.

Including maps in REDD+ policy and planning processes can support the identification of actions that secure additional social and environmental benefits.

1 Prepare for spatial analysis

- Which stage of REDD+ planning will be informed by the analysis? (strategy development, implementation of actions)
- Where could REDD+ actions be implemented? (consider land cover and land use, stakeholders and tenure, among other factors)
- Which stakeholders should be involved in the mapping?
- What is the scale of the analysis?
- What other objectives can REDD+ contribute to? (consider other objectives and priorities, such as biodiversity conservation and poverty reduction)

2 Consult key stakeholders

Consider key stakeholders from the government (including decision-makers and technical staff), those who may be affected by REDD+ implementation, and experts to support the analysis. Carry out consultations to:

- Discuss REDD+ actions to be analyzed
- Discuss where and how REDD+ actions might be implemented, and who might be affected
- Develop and/or review analyses of benefits and risks of REDD+ actions
- Identify priority benefits and risks
- Identify what data sources are available to map priority benefits and risks, and if they are credible
- Identify what new analyses could be undertaken to develop spatial layers, as needed
- Determine methods/software to be used
- Determine if there is a need for capacity development and provide training as needed
- Design workflows to carry out the spatial analyses

3 Develop spatial layers

- Technical staff develop or adapt individual spatial layers for priority benefits and risks, along with base layers (for example, showing areas suitable for forest conservation, restoration or agroforestry, depending on the REDD+ action)
- Combine different layers to illustrate where REDD+ can secure multiple benefits
- Consult with stakeholders and mapping experts to evaluate the usefulness of the spatial layers and determine if additional data or analysis will be needed
- Ensure methodology and data sources are presented alongside analysis results and maps

4 Validate the maps and analysis

- Validate the analyses with key stakeholders, for example through sharing draft reports or maps, or holding participatory workshops
- Adjust analyses with feedback received

5 Communicate results

- In consultation with key decision-makers, identify target audiences and select the correct format to communicate the results of the analysis
- To facilitate interpretation, results from the analysis may be presented using graphs or tables, in addition to maps.
- Ensure the limitations of the analyses are also identified and communicated

6 Use information to support decision making

This information can be used to support decision-making, and help to implement REDD+ actions in a way that secures additional social and environmental benefits. Results can be used to inform:

- REDD+ strategy consultations
- Discussions on managing benefits and risks, in line with REDD+ safeguards, and as an input for a Safeguard Information System
- Consultations on the implementation of REDD+ actions
- Other country policies, objectives or reporting needs (for example related to biodiversity)

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the private sector, local communities and indigenous peoples. An open and inclusive dialogue must be organized between and across those groups, with particular attention given to marginalized and vulnerable stakeholders, such as women, indigenous peoples, ethnic minorities and migrants. ILUP also includes stakeholder engagement; consultation; the free, prior and informed consent of affected indigenous peoples and communities; and environmental and social impact assessments to identify and address potential impact.

Spatial analysis and planning are essential elements for identifying areas of land-use change and impact, highlighting competing land uses and conflicts, determining opportunity areas for particular activities and protecting land and resources for certain priorities, such as conservation, restoration and development. Spatial analyses are thus a key input to an effective planning process, although they cannot take the place of the planning process (see infographic below).

ILUP may be implemented at various levels of territorial governance, from local to national to transboundary. It may use administrative or customary units (for example, a province, state, or clan) or functional units (such as a productive or ecological landscape). At different scales, ILUP will be based on common but differentiated perspectives and objectives and on slightly different methodologies. At the higher level, the planning process will usually set more overarching strategic priorities and directions, while more spatially precise and potentially prescriptive rules will be defined at the local level. To ensure the necessary vertical and horizontal coherence (across scales and between units at the same scale, respectively), ILUP methodologies require both a bottom-up and top-down approach.

The selected integrated land-use plan should also be embedded in a policy, legal and regulatory framework, with associated instruments (such as zoning plans and socioeconomic development plans) or more informal agreements (for example, agreements at the local level).

For ILUP to be effective, it must be supported by investments for timely implementation and monitoring, as well as positive and negative incentives that will help to orient public and private investment towards optimal locations. That may include conditional green development plans, payments for environmental services, preferential commodity sourcing, law enforcement and other incentives.

REDD+ AND ILUP

REDD+ is fundamentally about promoting forest solutions to address the climate crisis and supporting countries with forests to achieve more sustainable and equitable development. The drivers of deforestation and forest degradation are often cross-sectoral in nature: globally, the degradation of tropical forests is mainly driven by legal and illegal logging, while some 70 per cent of tropical deforestation is caused by conversion to agriculture (FAO, 2016). Although the development and implementation of REDD+ strategies and that of ILUP are undertaken as separate processes and led by different line ministries, they share many characteristics and there can be strong linkages between them. Those linkages differ between countries, but common practices include incorporating ILUP into REDD+ strategies, improving ILUP processes nationally to better consider forests and building capacity to carry out spatial analysis in support of REDD+ planning.

ILUP usually requires strong political support. REDD+ has helped to build ILUP coalitions and has promoted the principles of participation and inclusion, raised awareness among key decision-makers with regard to forests and the many services they provide, contributed key data and analyses for decision-making and supported improved land-use monitoring through mechanisms such as national forest monitoring systems.

ILUP has been identified as a key measure in the majority of national REDD+ strategies or action plans currently available globally, including in 20 of the 23 that the UN-REDD Programme has supported. Those policies and measures encompass the following:

a.   the generation and sharing of information on forests to inform ILUP and associated decision-making (for example, information on forest cover, areas of high carbon stocks and biodiversity values and land-use scenarios);

b. the use of inclusive multi-stakeholder platforms, some developed as part of REDD+, to enable quality planning processes;

c. ILUP reforms at the national level and/or the implementation of ILUP at the subnational level, with particular attention given to forests.

The following examples of improved ILUP processes in REDD+ countries highlight some of the different approaches that can be used, as well as the importance of using appropriate strategic entry points:

In the Democratic Republic of the Congo, the national REDD+ process has provided an important opportunity to discuss ILUP at all levels and to build a large coalition of pro-ILUP actors. That has directly contributed to the ongoing national ILUP reform. With support from the Central African Forest Initiative, through the National REDD+ Fund and based on its national REDD+ strategy and investment plan, the Government of the Democratic Republic of the Congo is developing a national ILUP policy and associated regulatory framework, to be followed by a national land-use plan. Provincial land-use plans are also being developed in seven provinces that are key for REDD+, and at the local level in collaboration with communities and indigenous peoples. The process has also provided an opportunity to consolidate and streamline the different ILUP approaches supported by various partners at the local level across the country.

In Ecuador, with funding from the Global Environment Facility and the Green Climate Fund, PROAmazonía is supporting the implementation of the national REDD+ Action Plan. Decentralized autonomous governments are close to finalizing the updates to their local land-use plans. Those plans include criteria related to climate change and sustainable agriculture production, with zoning that minimizes deforestation and degradation while promoting conservation and restoration actions.

An incentive mechanism has been developed whereby financial resources will be transferred to decentralized autonomous governments to support implementation, conditional on the development and respect of the local land-use plans. The financial resources will also support

BOX 2. TOOLS FOR ILUP AND BETTER DECISION-MAKING.

Numerous different tools, including software, methods and models, have been developed to support ILUP and the potential landscape measures that it unlocks. The integration of such tools with multi-stakeholder processes is essential; for example, forest resource and land-use change data can be used to inform negotiation and decision-making processes and spatial planning.

Several countries are advancing in their forest and environmental monitoring through Open Foris suite, a set of free and open-source software tools that facilitate flexible and efficient data collection, analysis and reporting. The suite also includes SEPAL, which allows users to query and process satellite data quickly and efficiently. The Food and Agriculture Organization of the United Nations (FAO) is also taking significant steps to ensure that global data sets from a range of sources can support decision-making. Launched in 2019, the Geospatial Platform of the Hand in Hand Initiative enables countries to confidentially upload data and compare it with spatial data sets for socioeconomic data, forest cover, production and other data sets.

The UN-REDD landscape tool navigator, currently being developed, will enable stakeholders to access relevant tools to reduce emissions from deforestation, specifically those related to agriculture and/or forest landscapes, to inform decision-making. Users will be able to identify tools from UN-REDD agencies, based on their needs and the function of the tools. The navigator is expected to be ready by the end of 2021, with a beta version (tools review) due to be available in Excel format in December 2020.

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BOX 3. MAXIMIZING THE BENEFITS OF REDD+.

When planning for the implementation of actions under REDD+, it is important to identify places where REDD+ actions can achieve carbon and non-carbon benefits simultaneously. Identifying and visualizing aspects that include the relationship between carbon stocks and other ecosystem services, biodiversity, land use and pressures on natural resources can help countries and jurisdictions better plan for and implement REDD+ and evaluate progress over time.

Spatial analysis can help planners to narrow down the potential locations suitable for REDD+ actions while taking into account benefits and risks. Mapping the parameters related to potential non-carbon benefits (such as ecosystem service provision, biodiversity conservation and poverty alleviation) can help to identify areas where the provision of such benefits is high, in addition to the core goals of carbon storage and sequestration.

The UN-REDD Programme has supported 22 countries in identifying priority non-carbon benefits and in undertaking mapping to inform REDD+ planning and implementation to deliver these benefits. A number of key lessons and case studies are further explored in this story map, as well as below.

Argentina's UN-REDD national programme partnered with the United Nations Environment Programme's World Conservation Monitoring Centre and the Argentina Wildlife Foundation to assess the ways in which the actions in the National Action Plan on Forests and Climate Change could help to achieve a range of benefits for both people and the environment and to present the results in a useful format for decision-making. Key benefits that could be delivered by conserving and sustainably managing forests in six forest regions were mapped, including conserving biodiversity, protecting soils and alleviating poverty, revealing the most important areas for providing those benefits. The results are currently being used by Argentina's National Directorate of Land and Environmental Planning to inform further project development.

The federal Government of Nigeria has focused the initial promotion of REDD+ in Cross River State. In 2017, together with the Cross River State Forestry Commission and the national UN-REDD programme, the federal Ministry of Environment analysed the potential to deliver both carbon and non-carbon benefits in the State. Those analyses focused on the way in which two actions – forest restoration and mangrove conservation – could promote three key values: forest carbon stocks; forest biodiversity; and the role of forests in limiting soil erosion. The resulting maps, produced with the participation of a range of government and non-government experts, were included in the Cross River State REDD+ Strategy.

Multiple benefits analyses have also helped countries to receive a premium for results-based payments for REDD+, such as in Paraguay. The Green Climate Fund's 2019 approval of up to $72.5 million in results-based payments, with an initial disbursement of $50 million, included a 2.5 per cent premium for providing information on the nature, scale and importance of non-carbon benefits, including on the ways in which they can contribute to the long-term sustainability of REDD+.

forest-friendly activities and the monitoring of deforestation.

In Indonesia, central and local governments must conduct strategic environmental assessments (SEAs) to ensure that sustainable development principles are integrated into development and spatial plans. SEAs are also recognized as a way of mainstreaming REDD+ actions and the Cancun safeguards into planning in REDD+ jurisdictions. The SEA process integrates hard data into participatory decision-making processes, and requires public consultation, impact assessment, harmonization with other policies and programmes and the consideration of multiple benefits. In the district of Bengkalis, for example, the United Nations Environment Programme (UNEP) project Generating Anticipatory Measures

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for Better Utilization of Tropical Peatlands (GAMBUT) is developing a fire risk system and promoting the mainstreaming of anticipatory actions and ecosystem restoration into district development and spatial plans.

There is a wide range of tools and methods available to support best practices in ILUP and linkages to REDD+, including participatory planning approaches, land-use modelling, scenarios and spatial analysis tools, among others. Box 2 introduces a number of tools to support land-use decision-making and box 3 considers methods for maximizing the potential benefits – both carbon and non-carbon – of REDD+ actions.

ADDRESSING ILUP CHALLENGES AND MAXIMIZING EFFECTIVENESS

Since 2008, the UN-REDD Programme has worked with countries around the world on REDD+ planning, including links to ILUP. The past 12 years of work in that area have demonstrated a number of key lessons or success factors when applying ILUP and enhancing links to REDD+ planning and implementation, including the following:

- REDD+ processes within a country can catalyse improved ILUP, but are unlikely to launch a new ILUP process from nothing; the political will to implement ILUP and to abide by the resulting plans is needed, as are incentives or drivers of change that can apply across multiple sectors. For example, efforts to mainstream climate change targets across sectors or to reduce conflicts over land may be more influential drivers than REDD+ incentives alone.

- To be sustainable, ILUP should be embedded in the broader policies and governance processes in a country. Doing so will help to ensure an ongoing mandate and potentially the capacity and funds to carry out ILUP over the long term and in harmony with national priorities and processes. That may involve the development of formal legal frameworks for ILUP,[1] as well as linking to socioeconomic

development planning processes and, in some cases, customary practices.

- ILUP is often a complex process – there are linkages and overlaps across levels of government, administrative boundaries and ecological units – and it can be challenging to choose the right unit and entry point. Effective ILUP requires both an understanding of that complexity and a strategic entry point, which may be national or subnational. For example, although the ecosystem or watershed scale may appear to be the best scale for planning, some countries lack institutions or political mandates at that level.

- Participatory and inclusive processes are vital for ILUP. The participation of relevant stakeholders is needed to identify multiple perspectives and goals, to develop a shared vision, and to work towards more equitable outcomes. Certain elements of "good governance" should be in place for sustainable and effective ILUP, such as participation, transparency, rule of law, accountability and equity,[2] and free, prior and informed consent (FPIC).

- Effective ILUP requires sufficient capacity and information, including reliable and accessible data and the ability to work with and understand it. That can encompass the generation of new data, as well as the incorporation of spatial data (maps), statistical data, and indigenous and community knowledge and practices into planning processes.

- For ILUP to be sustainable, it needs to be linked to funds or investments for achieving the objectives of the plan. That may include linking land-use plans to ongoing government budgets and programmes (such as those for poverty alleviation, education or energy, for example) or to new sources of funding (for example, results-based payments for REDD+ or new

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1   For example, Viet Nam's National REDD+ Action Programme (2017) includes REDD+ actions related to ILUP, which aim to support implementation of the country's recent planning law and help to meet a national target of 16.24 million hectares of land designated for forest by 2020.

2   There are numerous definitions of the principles of "good governance", though common themes include the following: participation, rule of law, transparency, responsiveness, consensus-orientation, equity and inclusiveness, effectiveness and efficiency, accountability, capacity, sound financial management, proper implementation of laws, and sound capacities (see, for example, https://www.unescap.org/sites/default/files/good-governance.pdf; https://www.coe.int/en/web/good-governance/12-principles; and Forest Governance Module of the Sustainable Forest Management Toolbox, http://www.fao.org/sustainable-forest-management/toolbox/en/).

credit mechanisms).[3] Funds for long-term monitoring and enforcement should also be identified and allocated. The ILUP process can provide an opportunity to consider the long-term sustainability of the actions proposed, the ways in which they can be funded and what constitutes success (for example, expected social and environmental performance).

- Effective ILUP also recognizes potential trade-offs and risks and the potential for conflict while trying to avoid or reduce them. ILUP takes place within existing power structures and inequities and should include recognition of their interaction with the planning process. Conflict-sensitive approaches may be required in ILUP to avoid exacerbating conflicts and to contribute to peacebuilding. In the case of REDD+ actions involving ILUP, numerous countries have assessed the potential risks and benefits associated with ILUP and have developed measures to reduce risks and enhance benefits.[4]

- The UN-REDD Programme and its partner countries have documented many of the lessons learned and critical success factors for ILUP in the context of REDD+ planning and actions (see the additional resources provided below).

LOOKING FORWARD: EMERGING ISSUES AND OPPORTUNITIES

ILUP and related approaches are catalytic for transformational landscape initiatives and emerging paradigms of landscape governance, such as initiatives to enhance the integration between productive, sustainably managed and protective ecosystems. Combined with solid forest and land-use data, tools and other integrated approaches, ILUP can help to achieve long-term, sustainable and transformational results.

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3   For example, research in Côte d'Ivoire on underlying public financial flows influencing deforestation and forest degradation found that in 2015 at least US$140.7 million was invested in "grey" activities, such as agricultural intensification, while US$28.1 million of investment was contributing to achieving REDD+ objectives.

4   For example, an assessment of this nature in Myanmar highlighted the need to identify existing land uses (including customary use), as well as natural forest and environmentally sensitive areas, to inform site selection and land-use planning for REDD+ actions and for the participation of marginalized stakeholders in land-use planning processes.

Planting gnetum in Nigeria (source: CIFOR)

ILUP is unlocking jurisdictional approaches and convening public, civil society and private sector actors. As of 2020, at least 13 jurisdictions were implementing joint public and private sector approaches by merging REDD+ actions, private sector commitments and domestic policy objectives across critical landscapes (Umunay et al., 2018). Many of those jurisdictions are building on ILUP led by governments to involve companies that produce and trade in commodities, civil society and producer organizations in order to coordinate actions to collectively reduce deforestation. Several of those jurisdictional approaches are tied directly to a specific forest risk commodity, such as beef, soy, palm oil, coffee or cocoa. Anchoring ILUP to a major driver of land-use change offers advantages, but can also reduce the flexibility that enables the consideration of broader social issues and the empowerment of marginalized stakeholders (Bastos Lima and Persson, 2020). It is important that emerging approaches that aim to reduce deforestation are sufficiently agile to be able to capitalize on existing planning processes as well as to integrate productive, social and sustainable development objectives.

Coordinating planning processes across geographic and administrative scales is also critical and can trigger long-term and sustainable results. Subnational governments that have the authority to design and implement spatial planning can take more localized actions to reduce deforestation and degradation (Busch and Amarjargal, 2020). So-called "nested approaches" are gaining significant traction. Under such approaches, processes designed and implemented by subnational authorities can better ensure the participation of local actors, and when aligned with national policies, planning and processes, can generate important results. An example of the key role of subnational governments and actions and of the interconnectivity of factors in a landscape comes from Argentina. There, regional planning for native forests and the implementation of concrete plans under the Argentine forest law, combined with changing crop prices, livestock products and land value, have been critical factors in achieving emissions reductions (Nolte et al., 2017) and securing payments under the Green Climate Fund for results for the period 2014–2016.

To ensure more sustainable land-use paradigms, suitable financing mechanisms are also crucial. By identifying priority areas for sustainable forest management, landscape restoration and sustainable agriculture, ILUP can inform the identification of investment needs and priorities, providing a range of investment opportunities that seek to take advantage of changing approaches to forest protection and management.

While new or alternative forms of production do not have to be more costly or risky, there is an initial sunk cost that will have to be absorbed by early adopters during the first few years of transition. That is why de-risking or risk-sharing facilities are required to support the initial transactions and mitigate the costs, risks and barriers that can impede transitioning towards sustainable land use, which can include risks such as liability and compliance risk, reputational risk and credit risk for lenders, and pre-investment stage risks, where sustainable production projects imply significant risks until financial, technical and legal certainty can be achieved; and the barriers of limited availability of investment for sustainable projects and limited capacity among partners to adopt and appraise sustainable production models. Those risks and barriers can combine to result in inadequate financial incentives for supply chain companies to shift production models to sustainable alternatives.

When ILUP is paired with the design of incentive packages for particular landscapes, as highlighted in "Incentives for ecosystem services: supporting the transition to sustainable food systems" (FAO, 2015), governments are more likely to achieve their desired outcomes. Blended finance mechanisms and green bonds that can channel investments into forest conservation, restoration or sustainable agriculture can also be tied to local land-use plans. Connecting sustainable finance and ILUP processes is essential for transformational change at the landscape level.

In the face of multiple crises, including climate change, biodiversity loss, the impact of COVID-19 and underlying socioeconomic inequalities, truly transformational change is required. As highlighted in a publication entitled "Incentives for Ecosystem Services: Supporting the transition to Sustainable Food Systems" (FAO and Center for International Forestry Research (CIFOR), 2018), a paradigm shift towards low-emissions development and economic and climate resilience requires numerous changes to multiple systems in parallel and across scales. A new vision and strong leadership are needed to foster cooperation and commitment among stakeholders and to move beyond unconstructive behavioural patterns within institutions, governments and sectors. For a successful paradigm shift to an integrated landscape approach, strategic alliances must be built between different sectors, acknowledging the mutual interdependency and complementarity in their efforts to achieve sustainable development and respond to crises. The depth of the change needed is challenging, as it is dependent on changes to cultural values and rationales. Rather than resulting from individual interventions at landscape scale, such changes usually stem from a wider transformation across society ("Exploring guiding elements of transformational change in integrated landscape management", Termeer, Dewulf and Biesbroek, 2017).

ILUP and integrated approaches can play a role in achieving that change. The ILUP process inherently promotes many of the guiding elements of transformational change, including cross-sectoral collaboration at multiple levels and embracing the diversity of local objectives. ILUP can act as a driver of transformational change by defining new, scalable paradigms for land and forest management, thus helping to ensure that forests remain to support effective nature-based solutions.

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ADDITIONAL RESOURCES

Manuals, Guidelines and Toolboxes

- "Developing sub-national REDD+ action plans: A manual for facilitators". International Centre for Integrated Mountain Development, 2018. Drawing on pilot REDD+ initiatives supported by the UN-REDD Programme and FAO in Nepal and Viet Nam, this manual for facilitators guides planners and stakeholders in the development of subnational plans for REDD+ action.

- UN-REDD multiple benefits country resources hub and associated GIS training materials.

Journals, Papers and Reports

- "Exploring guiding elements of transformational change in integrated landscape management". FAO and CIFOR, 2018.

- "Landscape of REDD+ aligned finance in Côte d'Ivoire". UN-REDD Programme, 2017. This report provides a map of public finance related to REDD+ and land-use in Côte d'Ivoire to inform REDD+ investment planning and the alignment of domestic and donor spending with REDD+ objectives.

Information and Policy Briefs

- "Hacia una economía baja en carbono: el rol de los Bancos de Desarrollo de ALC como impulsores del financiamiento climático". UN-REDD Programme, 2020.

- "Exposure to Risks Posed by Unsustainable Land Use: What Can Burmese Banks Do?" UN-REDD Programme, 2019. This brief focuses on measures that Burmese banks can take to minimize any exposure to unsustainable land use and deforestation, while aligning their portfolio with sustainable and profitable businesses that are able to foster and reinforce a healthy functioning environment.

- Information briefs on nesting and jurisdictional approaches in Asia-Pacific and Africa. UN-REDD Programme, 2019.

- "Spatial Analysis: A Tool for Integrated Land Use Planning for REDD+". UN-REDD Programme, 2019. This brief brings together country experiences to identify the critical success factors in the development of spatial analyses to inform REDD+ implementation and their uptake into national REDD+ strategy and implementation plans.

- "Integrated land-use planning for REDD+: Lessons from combining spatial analysis and participatory approaches at the sub-national level in Viet Nam". García-Rangel et al., 2017. In English and Vietnamese. This brief shares knowledge and experience on the use of integrated land-use planning approaches for REDD+ planning, focusing on the combination of spatial analysis and participatory approaches, and drawing on lessons from Viet Nam.

Case Studies, Articles and Blogs

- UN-REDD Multiple Benefits Country Resources Hub.

- UN-REDD Programme blog, including posts on Viet Nam's ILUP experience; land-use planning and deforestation-free supply chains; financing agroforestry transition in Côte d'Ivoire, and planning for non-carbon benefits.

- UN-REDD Programme Story Map: Planning for REDD+ benefits beyond carbon.

Credit for Pictures and Images

Infographic on spatial information to support REDD+ decision-making (Source: UN-REDD Programme (2019) Spatial Analysis: A Tool for Integrated Land Use Planning for REDD+)

UN-REDD
PROGRAMME

Food and Agriculture
Organization of the
United Nations

UNDP

UN environment programme

The United Nations Collaborative Programme
on Reducing Emissions from Deforestation and
Forest Degradation in Developing Countries.