Landscapes for People Food and Nature

Financing Strategies for Integrated Landscape Investment

Integrated Landscape Initiative Analysis

Gabrielle Kissinger

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lexeme consulting

Available online at landscapes.ecoagriculture.org/global_review/ilianalysis

The Landscapes for People, Food and Nature Initiative is a collaborative initiative to foster cross-sectoral dialogue, learning and action. The partners aim to understand and support integrated agricultural landscape approaches to simultaneously meet goals for food production, ecosystem health and human wellbeing.

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Saplings at the World Agroforestry Centre, Nairobi, Kenya. Photo by Krista Heiner/EcoAgriculture Partners

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Acronyms

Acronym	Definition
CAR	Cadastro Ambiente Rural (Rural Environmental Registry)
CEPF	Critical Ecosystem Partnership Fund
CSR	Corporate Social Responsibility
DFI	Development Finance Institution
IFC	International Finance Corporation
ILI	landscape management initiative
ILM	Integrated Landscape Management
LPFN	Landscapes for People Food and Nature initiative
NGO	Non-governmental organization
PACT	Atlantic Forest Restoration PACT, Brazil
PES	Payments for ecosystem services
RSPO	Roundtable for Sustainable Palm Oil
RTRS	Roundtable for Responsible Soy
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SANBI	South African National Biodiversity Institute
SKEP	Succulent Karoo Ecosystem Programme
SKEPPIES	Small grants fund for the Succulent Karoo Ecosystem Programme
SLM	Sustainable Land Management
UK	United Kingdom

Summary

The search for positive solutions is increasingly steering a range of actors and stakeholders towards Integrated Landscape Management (ILM), to support the interrelated objectives of food production, ecosystem service provision and rural and urban livelihoods, while avoiding the tradeoffs and conflicts inevitable with single-sector approaches. Financing these initiatives requires rethinking how more traditional sector-based land use finance can function to serve integrated approaches. Finance solutions are required that recognize the value of integrated problem-solving, and the unique financing needs these initiatives require. This report synthesizes insights and lessons learned through the Landscapes for People Food and Nature (LPFN) initiative's investigation into the landscape analysis component of the "Finance case and financing strategies for integrated landscape management."

A global scoping identified twenty-nine ILIs, which enabled assessment of trends, commonalities and insights on financing integrated landscape management. The scoping results included ILIs representing all entry points, including biodiversity or conservation; production in sectors such as agriculture, forests and water; and economic development or social and livelihood needs. Institutional planning and coordination cut across these entry points and are essential to all of them. Once the need for an integrated solution is identified, the entry points broaden and often merge (for instance, conservation and production, biodiversity and livelihoods, etc.) and multiple investments occur to support multiple outcomes. Despite this, investments tend to be single-sector based or siloed, such as focusing solely on water, poverty reduction, forestry, or agricultural production.

The type of leading actors within a given ILI appears to be correlated with its mix of finance sources. The major types observed are: government-led or multi-lateral-led initiatives; regional initiatives or platforms; traditional, local or community-led initiatives; NGO, grassroots or civil society-led initiatives; and private sector-led initiatives. Initiatives may shift between types, depending on their state of development. However, such approaches often solidify via multi-stakeholder dialogue and coordinated planning through regional platforms.

Three in-depth landscape case studies were analyzed to assess the sources and structures of financial flows to landscape activities, the financial gaps and barriers for landscape actors, the opportunities for innovation in financing institutions and mechanisms based on ILI needs, and the role played by sub-national and national government actors. The case studies included the Atlantic Forest PACT, Brazil; Succulent Karoo Ecosystem Programme, Namaqualand, South Africa; and Imarisha Naivasha, Lake Naivasha, Kenya.

The case studies demonstrate that ILIs largely tap sector-based funds (water, forests, agriculture; either conservation- or production-based). Partnerships allow each actor to tap into finance they would normally not access acting alone. ILIs take time to evolve, and their. A ILI investment pathway is evident across all cases, which includes the investment and financial support timeframes being at least ten years; the crucial role of patient capital in the early years for stakeholder consultation and coordination, testing concepts, and building capacity; and a mixture of different donor and investor types that are best suited to different stages of a landscape approach. The diversity of funding and investment sources over time is often linked to the strength of the proof of concept, stakeholder platform and ILI leadership. Different sources of finance are best suited to different stages in the development and implementation of a landscape initiative, based on the risk/return profile of the investor and the particular finance needs at each stage. Those ILIs without strong leadership face challenges holding partnerships together and raising the capital needed to carry out solutions.

Scoping and case study results indicate that common barriers exist to scaling up and achieving success. Institutional planning and stakeholder coordination process elements are crucial. Public investment plays a key role in supporting landscape coordination and building the en-

abling environment, however public sector institutions are often highly siloed. Integrated initiatives require specific investments to get the finance and incentives structure right to influence sustainable land use.

Landscape actors overcome finance challenges in a variety of ways. A landscape initiative allows various entities with a stake to 'sit around the table,' understand the local context, identify common risks and opportunities, and identify the conditions, level of risk, and return that each actor requires in order to engage. An assessment of how financial incentives for landholders can have the greatest effect in achieving the desired outcomes should be designed at the outset of the ILI, and this is especially important in the case of payments for ecosystem service schemes. Further, prioritizing investments based on strategic assessments of how to direct finance to achieve the greatest impact is critical for directing scarce resources to activities that hold potential to have greatest impact. Finance and incentives cannot stand alone, but must be smartly deployed within a well-designed enabling environment (e.g. policies, strong stakeholder engagement, technical assistance, capacity) through an integrated approach that delivers the right interventions at the right scale. Catalytic funds can provide the means and incentives for landscape actors to convene, and begin to apply social and environmental standards and guidelines for investments within a given landscape.

Recommendations: A range of key investors could coordinate activities better to serve ILIs and buffer their investment risk. For instance, development finance institutions (DFI's) can play a larger role to enable multi-functional finance packages, DFIs and institutional investors/pension funds should work together more, and creative partnerships should be pursued between stakeholder platforms and banks. Conveners or aggregators can play an important role to align stakeholders and phase investment or help blend finance arrangements, and this is particularly important when considering how investments in single-sector approaches such as REDD+ can have greatest impact or carry less risk. Insights from the case studies point to the importance of REDD+ as an integral part of financing broader sustainable landscape management in mosaic landscapes. But investment standards and guidelines must also be better attuned to landscape risk, and should routinely screen for landscape-scale risks (such as water scarcity or climate change impacts) in investment decisions. Climate finance can be an important means of addressing risks that cross-cut multiple investment areas in a landscape initiative. Leveraging integrated finance from climate-focused sources can help identify priority risks and opportunities, and can also better inform private sector and development partner investment decisions.

Introduction

The interconnections of the water-food-energy-climate nexus[1] play out in a variety of ways, such as water security underpinning economic and community health, land degradation impacting food and bio-energy production, and trade-offs occurring between these often having negative consequences. The search for positive solutions is increasingly steering a range of actors and stakeholders towards Integrated Landscape Management (ILM), to support the interrelated objectives of food production, ecosystem service provision and rural and urban livelihoods, while avoiding the tradeoffs and conflicts inevitable with single-sector approaches. Financing these initiatives requires rethinking how more traditional sector-based land use finance can function to serve integrated approaches. Finance solutions are required that recognize the value of integrated problem-solving, and the unique financing needs these initiatives require.

A landscape initiative,[2] or integrated landscape initiative (ILI), refers to activities in a socially or geographically defined area that:

- seek to improve food production, ecosystem services, and rural livelihoods;
- include policy, planning, management or support activities at the landscape scale;
- involve inter-sectoral and/or multi-stakeholder coordination; and
- are participatory and support adaptive collaborative management.

This report synthesizes insights and lessons learned through the Landscapes for People Food and Nature (LPFN) initiative's investigation into the landscape analysis component of the "Finance case and financing strategies for integrated landscape management." This synthesis is based on a global scoping assessment of landscape initiatives, three case studies, a literature review and expert interviews. This investigation was guided by the following overarching research questions:

1. What is the current state of practice for landscape initiatives in accessing finance and achieving outcomes?
2. How does the integrated management that is characteristic of landscape initiatives relate to how these initiatives are financed? How are integrated outcomes achieved with disparate sources of funds? How is this integration coordinated? Who funds what in blended finance, and who funds the activities that are most important for achieving integration (such as integrated assessments/

1. World Economic Forum, 2011. Water Security: The Water-Food-Energy-Climate Nexus. Island Press.
2. Scherr, S.J., Shames, S. and Friedman, R. 2012. From Climate-Smart Agriculture to Climate-Smart Landscapes. Agriculture and Food Security 1(12).

assessing impacts of different land use scenarios, cross-sectoral planning and stakeholder consultation)?

3. Landscape initiatives themselves are not static practices, but rather they are dynamic, continually responding to community, market, policy and risk factors. What does the future of landscape initiatives portend for how finance institutions and mechanisms can best respond to those needs?
4. How can the experiences of these landscape initiatives help and guide other initiatives in their approach?

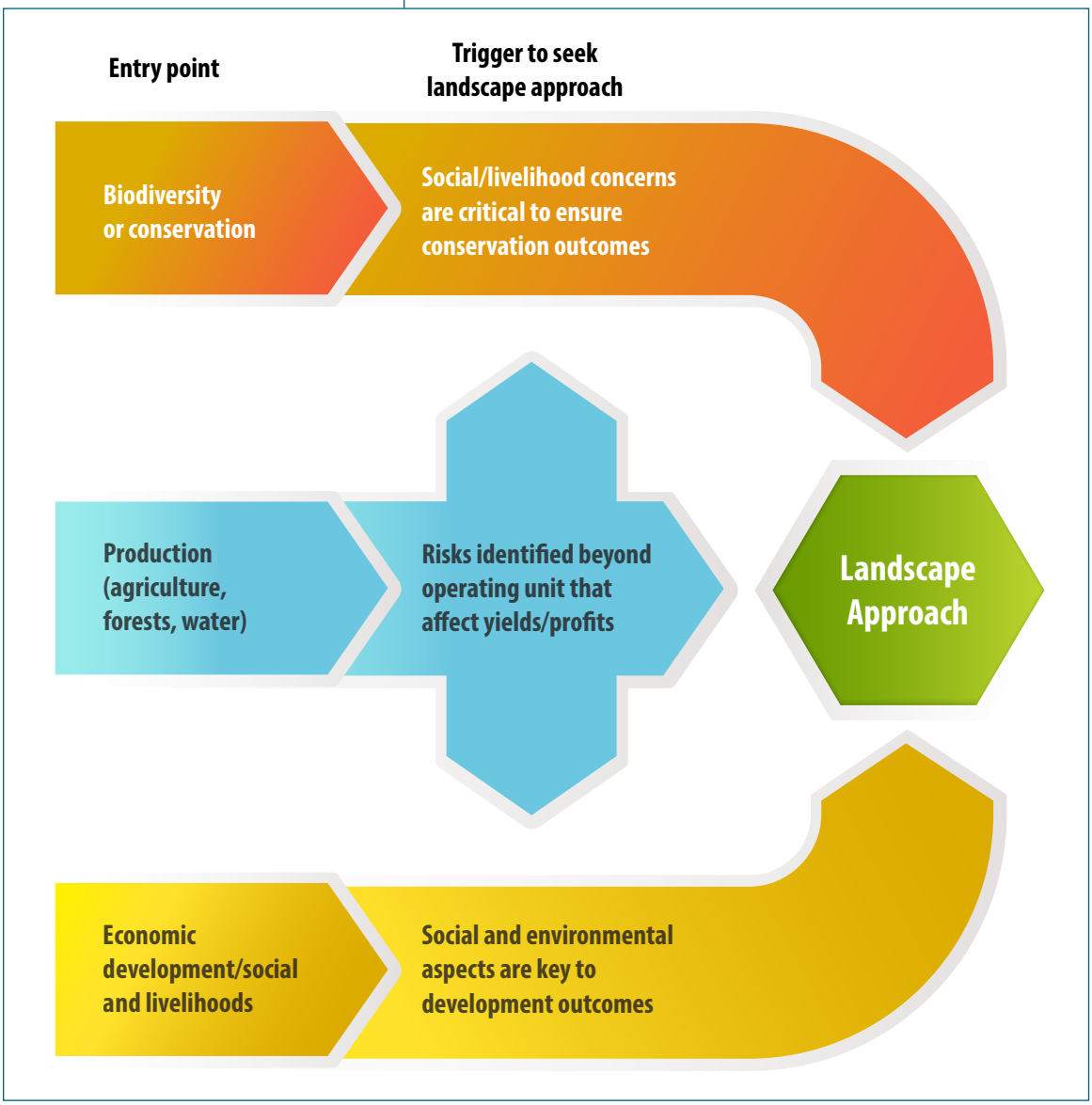

Figure 1. *Investment entry point and triggers for adopting on integrated landscape approachlandscape approach*

Findings from global scoping of integrated landscape initiatives

In order to assess trends, commonalities and gain insights on financing integrated landscape management, a global scoping assessment was completed. The assessment of landscape initiatives and potential case study candidates drew from LPFN continental reviews, focal landscapes, initiatives identified through the Reducing Risk[3] report scoping (which focused on ILIs with strong business/private sector investment), literature surveys and expert interviews. The LPFN continental reviews included the Latin American review[4] of 104 ILI initiatives in 21 countries and the African review[5] including 87 ILIs in 33 countries.

Based on their qualifications as meeting the definition of ILM as per Scherr et al (2012) and demonstrating a range of entry points (see next section), twenty-nine scoping cases were identified. Collectively, all entry points were represented, including biodiversity or conservation; production in sectors such as agriculture, forests and water; and economic development or social and livelihood needs. Candidates for the scoping needed to demonstrate functional stakeholder engagement, though this was difficult to assess in many cases. No geographic limitation was placed on the selection, however the priority was on ILIs already included in the LPFN continental reviews, LPFN focal landscapes, and in developing countries. A diversity of agroecological contexts was also sought. Candidate cases needed to demonstrate a strong enough track-record of implementation that information on finance could adequately be gleaned (5-10 years, in many cases). Scoping results are listed in Table 1, along with their type, which will be further explained in the next section.

Entry points

ILIs develop through a combination of needs in three key entry points—production, conservation, and livelihoods.[6] Institutional planning and coordination cut across these entry points and are essential to all. Figure 1 identifies these basic entry points, illustrates some of the triggers to pursue landscape initiatives, and provides general examples of the intentions behind the investments in each of these areas. The livelihoods entry point is very broad, and, in this context, it is understood to encompass economic development and social and livelihood aspects, which includes everything from labor issues, poverty reduction and agricultural producer access to health care, to hydro development and rural electrification. The production entry point includes single-sector approaches to resource use in which operational or reputational risks

3. Kissinger, G., A. Brasser, and L. Gross, 2013. Reducing Risk: Landscape Approaches to Sustainable Sourcing. Washington, DC. EcoAgriculture Partners, on behalf of the Landscapes for People, Food and Nature Initiative.

4. Estrada-Carmona, N, A.K. Hart, F.A.J. DeClerck, C.A. Harvey, J.C. Milder. In Rev. Integrated landscape management for agriculture, rural livelihoods, and ecosystem conservation: an assessment of experience from Latin America and the Caribbean. Landscape and Urban Planning.

5. Milder, J., A. Hart, P. Dobie, J. Minai, C. Zaleski. 2014. Integrated Landscape Initiatives for African Agriculture, Development, and Conservation: A Region-Wide Assessment. World Development, 54:68-80.

6. Based on the Latin America and Africa LPFN continental reviews, which defined four domains of landscape multi-functionality—agriculture, conservation, livelihoods, and institutional planning and coordination. The notion of entry points herein is derived from the domains.

No.	Name	Type
1	Sustainable tea and yerba mate production in the Atlantic rainforest of Misiones (Argentina) and Parana (Brazil) Provinces.	Private sector
2	Northern Ethiopia TerrAfrica/Sustainable Land Management Program (multiple projects)	Government
3	Rwanda/ Gishwati Ecosystem Project - "Reducing Vulnerability to Climate Change by Establishing Early Warning and Disaster Preparedness Systems and Support for Integrated Watershed Management in Flood Prone Areas"	Government
4	Lombok/British American Tobacco, Indonesia	Regional stakeholder platform NGO/civil society and Private
5	Namaqualand (Succulent Karoo Ecosystem Programme), South Africa	NGO/civil society
6	Mata Atlântica Forest Conservation/ Atlantic Forest Restoration PACT, Brazil	Regional stakeholder platform
7	Sustainable Cattle in Practice - Brazil	Private sector
8	Producers for Biodiversity, Brazil	NGO/civil society
9	Mainstreaming Sustainable Production Practices in the Atlantic Forest biome of Amambay-Canindeyú-Alto Parana Paraguay	NGO/civil society
10	Imarisha Naivasha, Kenya	Government/Private
11	"First project: Loess Plateau Watershed Rehabilitation Project Second Project: Loess Plateau Watershed Rehabilitation Project" China	Government
12	Mount Kenya East Pilot Project for Natural Resource Management – now Upper Tana Catchment Natural Resource Management Project	Government
13	Conservation International Food Security Project, Ankeniheny-Zahamena Corridor (CAZ), Madagascar	Government/NGO/civil society
14	Namibian Coast Conservation and Management project (NACOMA)	Government
15	Congo Heartland	NGO/civil society
16	ASPROINCA, Colombia	Traditional/community
17	Bacia hidrográfica do Ribeirão do Boi, Brazil	NGO/civil society
18	Bosque Modelo Chiquitano, Bolivia	Regional stakeholder platform
19	Fair Biomass Mozambique	Private sector
20	Development of Carbon-finance Mechanisms for High Conservation Value Forests and Peatlands in Oil Palm-dominated Landscapes of Kalimantan	NGO/civil society
21	Great Bear Rainforest, Canada	Regional stakeholder platform
22	Ethical Tea Partnership, Kenya	Private sector
23	Mars Cocoa Sustainability Strategy and "Vision for Change" partnership	Private sector
24	Southern Agricultural Growth Corridor of Tanzania (SAGCOT)	Government
25	Sustainable Forest Mosaics Initiative/Forest Dialogue for Atlantic Forest and Pampas	Regional stakeholder platform/ NGO/civil society
26	Project Catalyst: Great Barrier Reef Sustainable Freshwater Revitalization Program, Australia	Regional stakeholder platform/ NGO/civil society
27	Scolel Te, Mexico	NGO/civil society
28	Bosque Modelo Araucarias del Alto Malleco, Chile	Traditional/community
29	Serranía de los Paraguas, Colombia	NGO/ community/small-scale producer

Table 1. *Finance for ILM: Scoping results*

are identified that require reaching beyond a single production unit in order to address those risks. The nature of integrated management implies that once the need for an integrated solution is identified, the domains in the figure begin to merge (for instance, conservation and production, biodiversity and livelihoods, etc.) and multiple investments occur to support multiple outcomes.

Institutional planning and coordination plays a role in every stage of this process, with each entry point, and is a key attribute for all of these initiatives. These coordination processes are often cited by landscape actors as a trigger for them to pursue a more robust landscape initiative (due to dialogue with other sectors, cross-sectoral decision-support tools and information), and strong stakeholder platforms are often required to guide the long pathways required for these initiatives to coordinate multiple investments for multiple outcomes.

Typology

The range of entry points and convening actors can be sorted and grouped into distinct landscape initiative types, each with characteristic financing types based on the type (refer to Figure 2). These types were identified as a means of deciphering between ILI governance and leadership characteristics, which appears to have implications for how the ILI types are financed.[7] This initial typology guided case study selection. However, the scoping results and case studies indicate that most ILIs change types over time. Thus, the types offered in Figure 2 below are illustrative of general patterns, and landscape initiatives may reflect more than one type in their lifespan. For instance, community-based initiatives may formalize governance through creation of an NGO, and may even eventually be housed in a government ministry. The sources, diversity and even quantity of finance can greatly differ between those governance phases, and the ILI could be described as being of different types at different points in time. The case study results also confirm that ILIs can be multiple types at one time. For instance, a government-led initiative can have strong private-sector leadership (and even be perceived by the private sector as being led by them, despite the governance structure being housed within government). Therefore, these types are offered as an initial hypothesis, and a more diverse set of scoping cases, with adequate information on investments and financing would be required in order to refine this typology. It should be noted that the types of finance indicated in each type in Figure 2 are general types (or sources) of finance observed for each type, but not all ILIs in each type utilize all types of finance identified.

The major types observed are: government-led or multi-lateral-led initiatives; regional initiatives or plat-

7. While this research identified this initial typology based on governance and leadership characteristics, more information is needed to refine these types and relate them to types and sources of finance accessed, and should be a topic for future research.

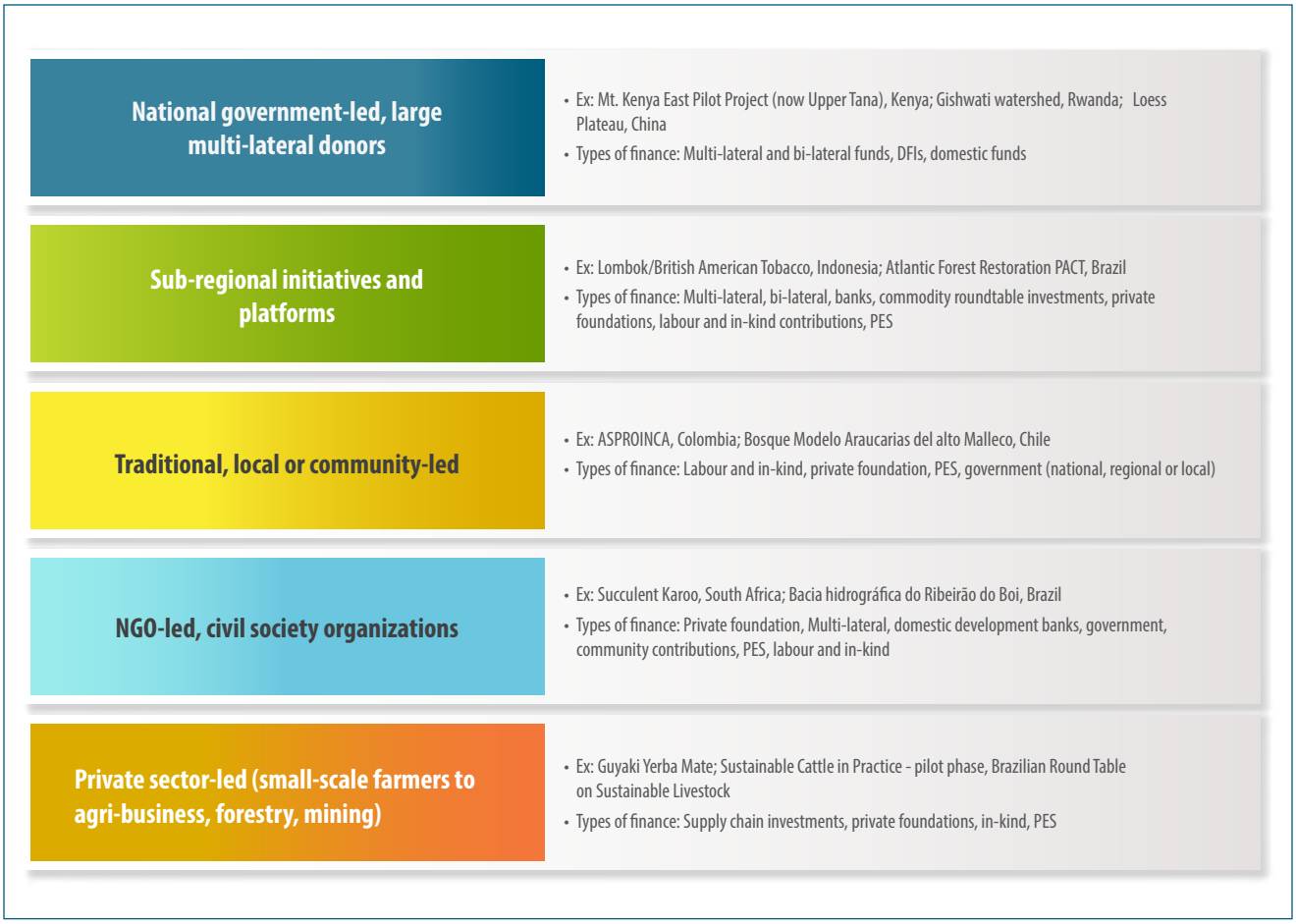

Figure 2. *Types of integrated landscape initiatives*

forms; traditional, local or community-led initiatives; NGO, grassroots or civil society-led initiatives; and private sector-led initiatives. Initiatives may shift between types, depending on their state of development. However, such approaches often solidify via multi-stakeholder dialogue and coordinated planning through regional platforms (e.g. PACT, Brazil) or government-convened platforms (e.g. SAGCOT, Tanzania).

Government-led or multi-lateral-led initiatives

The leadership either comes from, or is eventually housed in government ministries or departments, and implementation falls largely on government, but may include other partners. Examples: The Loess Plateau Watershed Rehabilitation Project in China, which achieved massive-scale restoration in an area home to 50 million people. Local incomes have since doubled and food security outcomes are very strong. 85% of initiative financing from the

World Bank went to the Chinese Central government to implement the initiative.

Regional initiatives or platforms

Assemblage of a range of stakeholders converging to solve shared risks or create new opportunities. Governance can take the form of steering committee's, formation of a NGO, or be managed by a government body (the latter two being different ILI types). Example: Atlantic Forest Restoration PACT, Brazil.

Traditional, local or community-led initiatives

Often formed as grassroots initiatives, these often create cooperative management arrangements, or morph into other types to solidify governance, and include indigenous territorial management. Example: Bosque Modelo Araucarias del alto Malleco, Chile, which formed as a grassroots initiative, but has since received significant financing from the government through their commitment to the Model Forest Network across Chile.

NGO or civil society-led initiatives

Initiatives often originate within these organizations, or as stakeholder platforms that either require greater administrative and financial capacity from existing organizations, or create new ones to serve this need. Example: Namaqualand, South Africa. While this started as a NGO-led initiative, it still contains portions which are led by NGOs, but is housed in a parastatal organization, which represents the stakeholder platform. Financing came primarily through the Critical Ecosystem Partnership Fund and Global Environmental Facility, and still depends heavily on private foundations.

Private sector-led initiatives

Driven by private-sector interest to address risks or opportunities beyond the farm- or concession-scale, these initiatives draw more heavily upon company operating revenues to pilot solutions. However, partnerships created in these ILIs can allow private sector actors to tap sources of finance they otherwise may not easily access, such as private foundation or government funding. Example: Ethical Tea Partnership, involving Twinings, Tetley Group, Marks and Spencer's; Kenyan Tea Development Authority, Rainforest Alliance, FLO-CERT, International Trade Commission.

Each type taps different sources of finance, and this appears to be directly correlated with the initiative leader and form of governance. For instance, government-led initiatives consistently rely on multi-lateral and development finance institution (DFI) funds. Regional initiatives and platforms do as well, but they tap a much wider range of finance, including commodity roundtable investments (if one is involved) or even in-kind (in

a form other than money) donations. In contrast, community-led or local initiatives rely more heavily on private foundations, in-kind contributions, payments for ecosystem services (PES) or locally-raised finance, and some have even created trusts or stewardship endowments, likely with external support from private foundations. Private sector finance is noticeably absent from most initiatives *except if*: a) a private sector actor is seeking to mitigate specific risks to the business (example: the Usiminas mining company addressing labour and poverty issues in the Bacia hidrográfica do Ribeirão do Boi initiative in Brazil); b) supply chain and producer support investments are made (example: Guyaki Yerba Mate, Argentina and Brazil, certification such as the Ethical Tea Partnership in Kenya, or projects containing Roundtable for Responsible Soy (RTRS) or Roundtable for Sustainable Palm Oil (RSPO) certification; c) payments for ecosystem services are transacted (example: forest carbon credits such as in Scolel Te, Mexico); d) regulatory, operational or reputational risk is at stake (example: Great Bear Rainforest, Canada).

Governments play a key role in all ILI types, particularly to ensure the enabling policies and institutions are in place for integrated outcomes. Public investment can be a critical means to provide funds to enhance or safeguard public goods, support stakeholder dialogue and solution-space, create the enabling conditions for other actors to invest, and forge public-private partnerships.

Mata Atlântica :: Serra da Gandarela - Atlantic forest. Photo by Frederico Pereira on Flickr

Case studies of finance for ILIs

The case study investigation sought to identify three landscape initiatives with diverse financing structures, in order to analyze the sources and structures of financial flows to landscape activities, financial gaps and barriers for landscape actors, as well as opportunities for innovations for action at the level of the landscape, financial institutions and national and sub-national government. Short summaries of the cases studies are provided below.[8]

Atlantic Forest Restoration PACT, Brazil

Brazil's Atlantic Forest (Mata Atlântica) is one of the Earth's five most important biodiversity "hotspots" and one of the highest priority regions for conservation in the world.[9] A few hundred years ago, this forest covered an area of more than 130 million hectares along the eastern coast of Brazil, the northern tip of Argentina and the eastern part of Paraguay. Within Brazil, less than 12% of the original Atlantic Forest cover remains, spread over isolated fragments less than 50 ha in size (Ribeiro et al 2009). Most of Brazil's population (60%), economic activity (70%) and a significant amount of agriculture (including cattle, sugarcane, coffee, rubber, banana, and citrus fruit) is located in the Atlantic Forest.[10] Due to the past degradation and considerable fragmentation of the remaining Atlantic Forest, restoration is the only means to rebuild and maintain the environmental services and genetic flux of the forest. Due to the strong interdependence between natural capital and the future of the regional and national economy, solutions to social, economic and environmental challenges cannot be addressed in isolation. Integrated landscape management interventions are being pursued in the Atlantic Forest by the PACTO pela Restauração da Mata Atlântica (Atlantic Forest Restoration PACT) and at state-levels. This ILI includes two scales of ILM activity—at the biome-scale with PACT) and state-level with activities in Espírito Santo, which is farthest along in implementing PACT goals at the state-level. PACT is a stakeholder platform, and Espírito Santo is a government-led ILM approach at the state level. Related to the overall PACT goals, the state of Espírito Santo has set a goal of reforesting 30,000 ha with native species in water critical areas, over the next few years. Espírito Santo's efforts demonstrate an integrated approach linking forests, water, rural and urban resource use and demands. It is based on an inter-secretariat approach within government, which promotes innovative finance mechanisms such as payments for ecosystem services and the potential for greater coordination between land use practices and access to rural

8. For full case studies, please visit landscapes.ecoagriculture.org/global_review/financingstrategies

9. United Nations Educational, Scientific and Cultural Organization (UNESCO). 2013. Discovery Coast Atlantic Forest Reserve. http://whc.unesco.org/en/list/892 and Atlantic Forest South East Reserves. http://whc.unesco.org/en/list/893. accessed on 2 November 2013.

10. World Bank. 2008. Project Appraisal Document on a proposed grant from the Global Environment Facility Trust Fund in the Amount of $4 million to the State of Espírito Santo, Brazil with the guarantee of the Federal Republic of Brazil for an Espírito Santo biodiversity and watershed conservation and restoration project. Report No: 40547 – BR.

Type	PACT is a stakeholder platform covering the entire biome, containing strong representation by the NGO, government, research and private sectors. Espírito Santo is a government-led ILM approach, implementing PACT goals at the state level, and with strong PACT stakeholder engagement
Key sectors	Agriculture, livestock, forestry, urban municipal water, oil and gas (as a source of revenue for PES)
Goal of ILM	Enhanced water supply, water quality and watershed protection, flooding control, forest restoration, building enforcement and incentives for environmental regulation compliance (particularly the Brazilian Forest Code), improved agricultural production and efficiency, green certification and increased market demand for timber and non-timber forest products from native species
Enabling environment (policies, programmes)	· Revised Brazilian Forest Code (2012), including the Rural Environmental Registry (Cadastro Ambiente Rural) (CAR) · Brazil's Law on the regulation, use and protection of native vegetation of the Atlantic Forest Biome (2006) · Ecological Corridors Project of the Pilot Programme to Conserve the Brazilian Rainforest (PPG-7/MMA) · National Water Resources Management System and policy, at both federal and state levels · ABC Plan for low-carbon agriculture · At the state-level in Espírito Santo, the Reflorestar Programme
Enabling investments	· Payments for Ecosystem Services (enabling federal law, example of Espírito Santo's state law to implement, based on oil and gas revenues) · Water fees charged to users and polluters by the watershed committees · Funds from environmental compensation and impact mitigation from infrastructure projects · BNDES Atlantic Forest Initiative · Atlantic Forest Conservation Fund (AFCoF II) · Credit for increased livestock productivity (Intensifica Pecuaria) · ABC Plan · (Potential) Green stock exchange (BVRio)

Table 2. *Atlantic Forest PACT and implementation in Espírito Santo, Brazil summary*

credit, private sector engagement, and federal and state legal framework supporting integrated land use interventions.

Finance innovations

- Federal, state, multi-lateral and private investment is authorized through legislation and coordinated across actors.
- Access to rural credit is increasingly linked to improved land management practices. This motivates farmers to better manage land, and align their own investment with improved practices.
- At a state-level, Espírito Santo's Reflorestar programme directs PES to landholders for improved practices in maintaining standing forest, planting seedlings for forest recovery, natural regeneration, agroforestry, silvopastoral systems and managed forests. The outcomes of the programme include improved water supplies to Vitória municipality, lower water treatment costs, re-

duced flooding and erosion, and improved agricultural practices.

Finance gaps

- Significant funds are already authorized for key interventions, but are not yet fully allocated to the purposes defined in existing legislation.
- Improved orchestration of finance for integrated outcomes is needed, and requires identifying the right institutional arrangements to deliver that need.

Key lessons learned

- Payments for ecosystem service schemes can result in scattered interventions that are driven by landholders' willingness to access financial incentives rather than a consistently applied programme. Thus, PES may not achieve the coordinated and synergistic landscape management outcomes hoped for, unless this limitation is managed around (e.g. prioritized areas or high numbers of farmers are enrolled).
- The Atlantic Forest is a mosaic landscape, thus provides relevant lessons for REDD+, including the importance of a strong legal framework for forest conservation and restoration within agricultural landscapes, spatial monitoring of legal compliance, access to credit being linked to legal compliance, and targeted incentives that help promote legal compliance.
- Payments for ecosystem services offer an important incentive for landholders and can be a useful tool in the mix of finance options for integrated land management. However, careful consideration must be made of tool limitations and lessons learned, to guide best application of PES.

Imarisha Naivasha, Kenya

The Lake Naivasha water catchment, in the Rift Valley of Kenya, is a RAMSAR site, World Heritage Site, an Important Bird Area and on UNESCO's tentative list. It stretches over 3,400Km2 draining the Aberdare and Eburru forests. The catchments' natural abundance has attracted considerable settlement and development over the last twenty years, significantly degrading ecosystem services. Between 1963 and 2011 the population in the region increased from 43,000 to almost 750,000 people (Imarisha Naivasha Board, 2012). The lower catchment area around the lake contains a range of land uses including pastoralism, wildlife conservation, commercial horticulture, smallholder farming, horticultural irrigation, tourism, fishing, urban development, settlement and geothermal power generation. Poor farm practices in the upper catchment,

Type	Government-led ILM that represents a public-private partnership and stakeholder platform. Strong private sector engagement, with the floriculture sector and UK-retailers
Key sectors	Water, agriculture (domestic food products + floriculture for export), forestry, geothermal energy, municipal, tourism, fisheries, pastoralists
Goal of ILM	The lake and riparian zone are protected and managed according to "wise use" principles and show significant, measurable improvements in ecosystem restoration and resilience. Land use and management in the wider basin contributes to sustainable development and climate change resilience through water and soil conservation, rehabilitation of forests, improved agriculture and livestock practices, sustainable nature and culture-based tourism, increased use of renewable energy/ reduced energy use, sustainable livelihoods and improved governance. Water resource institutions, mechanisms and facilities across the basin function effectively to regulate water use sustainably and to improve community access to clean water and sewerage, through increased knowledge, capacity and effective monitoring, sub-catchment management planning, payments for water services, water resource stewardship and conservation, urban planning and implementation. Imarisha Naivasha recognized and functioning effectively as the coordinating institution for basin restoration, wise use and sustainable development.
Enabling environment (policies, programmes)	Significant stakeholder dialogue beginning in 1990's. Imarisha Naivasha Sustainable Development Action Plan (SDAP) (2012 – 2017) Integrated Water Resource Action Plan (IWRAP) (2013-2016) for the catchment area

	Investor/funder(s)	Focus of investment/funds
Enabling investments	· UK retailers: ASDA, Tesco, Marks and Spencer and Sainsbury's LNGG (including Finlay's contributions as a LNGG member)	· Funded finalization of plans (SDAP and LN-IMP), 'no-regret' activities, Imarisha operating funds
	· German-Austrian supermarket REWE · Swiss-COOP	· Funded related University of Leicester research
	· Government of Kenya · District government (newly created, largely federally funded now) · Town of Naivasha government	· Imarisha operational support, dedicated funding through line ministries. · Sewage treatment and water provision and management in Naivasha town
	· Kenyan Embassy of the Kingdom of the Netherlands Regional Water Authorities in the Netherlands	· Programme on integrated water resources management and capacity building of institutions, hydrological models
	· CIDA – Canada · GIZ - Germany	· Water stewardship
	· UK DfID	· Support to WWF- Climate change scoping and adaptability
	· NGO and development partners · WWF · SNV · Twente University (ITC)	· Water resources management pass-through grants/investments
	· Equity Bank, Kenya	· Low-interest loans for small-scale dams

Table 3. *Imarisha Naivasha summary*

especially cultivation on steep slopes and on the riparian riverbanks, illegal logging and charcoal burning have resulted in the widespread depletion of forests, erosion and water quality concerns in the lower catchment.

The evolution of this integrated landscape initiative started twenty years ago, with identification of risks from slash-and burn agriculture in the Aberdare forest's uplands, followed by rapid growth of the cut-flower industry in the lower catchment around Lake Naivasha. Stakeholders identified a need to collaborate to affect water quality and forest conservation, and various stages of multi-stakeholder planning occurred over many years. However, the drought of 2008-2009 was a defining moment that illustrated to the range of stakeholders in the watershed their environmental service exposure and risk. This experience motivated greater coherence of the integrated management needs between sectors, and Imarisha Naivasha was born as a response to this need. Imarisha Naivasha is a public-private partnership, with a board that represents all key stakeholders. The Imarisha Naivasha Board and secretariat is anchored to the government through the Kenyan Ministry of Environment, Water and Natural Resources.

Finance innovations

- Water user fees: local water user associations play a larger role in collecting fees and monitoring water use. Imarisha is investigating how a surcharge on all water use fees could support basin sustainability.
- There is PES for some upper catchment farmers; however, unclear how to scale from >1000 farmers to 250,000 smallholders.
- There is a proposal for the Lake Naivasha Basin PPP Sustainable Development Fund (LNB-3P-SDF), which would be funded by a price premium from Naivasha flowers sold in the EU, water user fees, and other revenues.

Finance gaps

- The scale of the smallholder agriculture and land degradation challenge is enormous. New innovations, partnerships, research and significant new sources of funding to support integrated outcomes are required to address these pressures.
- Scaling up the existing PES programme will be challenging as it will require new investors with a clear stake in the environmental services, and much greater technical capacity and extension services.
- External donors are largely sector-based, so the initiative lacks viable options for attracting finance for all components of the landscape.

- A key option for integrating investments is to leverage climate finance, which is a priority cross-cutting element (and currently under-funded) for Imarisha Naivasha
- Cross-cutting and enabling elements identified as critical to achieve integrated landscape objectives that can balance multiple demands and uses are not currently funded to the degree necessary. These include investments focusing on climate change, livelihoods, governance and capacity for ILM, monitoring, enforcement, technology and innovation, research and awareness building.

Key lessons learned

- A strong stakeholder platform is essential, however integrated landscape management and associated investments benefit from stakeholders thinking beyond their own sectoral interests.
- The strength of the Imarisha Naivasha Board is crucial to maintain a broad vision of integrated management, align disparate stakeholder interests (and levels of investment), particularly as the role of the central government has diminished since the last election
- More demonstration of the financial viability and value of landscape approaches is needed. International Finance Corporation (IFC) performance standards triggered a decision not to provide finance until a Lake Naivasha business could demonstrate mitigation of regional water security risks in business planning. However, local banks and lenders do not apply similar environmental and social screens to evaluate risks.

Namaqualand, South Africa

The Succulent Karoo biome extends from southern Namibia down into the southern Cape Province of South Africa, and is the world's only internationally recognized arid biodiversity hotspot. Due to the aridity, both degradation from livestock use and water scarcity are of concern. Most of the region is used for communal or commercial grazing, which can be compatible with the maintenance of biodiversity in this landscape, however overgrazing has severely degraded as much as two-thirds of the region. The Namaqualand Priority sub-region of the Karoo is mineral rich, and a source for diamonds, zinc, heavy sands minerals, gypsum, and granite. Wind erosion from mining sites is a long-term soil degradation concern. The Succulent Karoo Ecosystem Programme (SKEP) evolved as a bioregional conservation and

Type	Started as a NGO-led initiative, currently contains portions led by NGOs, but secretariat representing the stakeholder platform is now housed in a parastatal organization
Key sectors	Agriculture and livestock, mining and water
Goal of ILM	Focused largely on bringing biodiversity perspectives into other sectors such as agriculture and livestock management, as well as mining and water use.
Enabling environment (policies, programmes)	Integrated plan and 20-Year Strategy Strong organization support by Conservation South Africa

	Investor/funder(s)	Focus of investment/funds
Enabling investments	· Critical Ecosystem Partnership Fund (CEPF)	· Succulent Karoo Ecosystem Programme and SKEPPIES
	· Global Environment Facility	· Support for Namaqua National Park and livelihood activities around Richtersveld Community Based Conservation Project
	· Development Bank Of Southern Africa (DBSA), Citigroup Foundation, and the Ford Foundation	· SKEPPIES
	· DeBeers South Africa	· Development of model land-use closure plan
	· Leslie Hill Succulent Trust (administered by WWF)	· Land protection
	· Municipal budget allocations	· Planning and some implementation (low capacity)
	· Federal budget allocations	· SANBI and Department of the Environment and Nature Conservation staff

Table 4. *Namaqualand, South Africa summary*

development programme, seeking to develop conservation as a land-use rather than instead of land-use. Current geographic focus of the SKEP extends beyond the Namaqualand sub-region, however Namaqualand is a strategic priority area of focus. Conservation South Africa (CSA) has played a key leadership role throughout the SKEP stakeholder platform. The SKEP coordinating unit is now housed within the South African National Biodiversity Institute (SANBI), a parastatal entity.

Finance innovations

- The long-term commitment by the Critical Ecosystem Partnership Fund to invest in convening and catalyze key activities in under-funded geographic priority areas with key sectors, such as agriculture and mining, was crucial.

- The SKEPPIES small-grants finance mechanism provides financial assistance for economic development activities that contribute to the restoration and protection of nature.

Finance gaps

- A significant amount of work was getting underway just as CEPF funds were ramping down, without a clear commitment from other key partners/stakeholders to carry the investment forward
- Funding the coordination of the stakeholder platform is a challenge—while CEPF supported CSA to play this role for the first 5 years, the government funding necessary to transition it to the South African National Biodiversity Institute has not been adequate.

Key lessons learned

- Developing local (e.g. municipal and local organization) capacity to fund and manage interventions was not pursued to the degree needed
- Investment timeframes needed be at least ten years
- Integrated management approaches require specific investments to get the finance and incentives structure right. These investments should be based on site-specific circumstances and an evaluation of the most strategic deployment of investment to bring about changes in land use.
- Significant investments made over many years to engage the mining sector in management outcomes were ultimately not adopted by the sector. Though DeBeers contributed funds, their operational/reputational risks were eventually mitigated by divesting from assets in the region.

How integrated landscape initiatives access finance

Integrated landscape initiatives largely tap sector-based funds (water, forests, agriculture; either conservation- or production-based). In the Atlantic Forest, the bulk of finance to shift land use is from water fees, environmental impact mitigation funds, and other sources that require the integrated deployment of those funds to occur at the farm- or concession-scale. Similarly, in Lake Naivasha, sector-based funds dominate the finance profile, with a significant focus on water. The role of the stakeholder platform or initiative convener is often to coordinate these sector-based funds, support stakeholders to access funds, or find how to leverage multiple sources of investment.

Public-private-partnerships, multi-sector partnerships, and civil society/private sector partnerships allow each actor to tap into finance they would normally not tap into by acting alone. Partnerships provide an important means for integrated approaches to access finance. For instance, the finance to address smallholder agriculture practices in Lake Naivasha, Kenya and Espírito Santo, Brazil from the floriculture and oil and gas industries would likely not have occurred without government institutional support, and the commitment of a broader stakeholder platform. Viable partnerships appear to demonstrate to donors and investors that their investment will carry less risk, due to the trust and collaboration forged through partnerships, and the related commitment to solutions and outcomes.

Investment and financial support timeframes for integrated landscape initiatives is at least ten years. While the Atlantic Forest PACT in Brazil was only formed in 2009, it is the current iteration of a stakeholder platform that has evolved over twenty years. The efforts in Lake Naivasha, Kenya and the Namaqualand, South Africa similarly evolved over at least 5 – 10 years. In Namaqualand, it was necessary for SKEP to focus during the first five years on cultivating relationships with divergent stakeholders, collaboratively devising integrated management objectives, and establishing and operating the SKEPPIES small-grants facility to incentivize land use change. However, the CEPF funding ended just as SKEP was moving into implementation. The CEPF is unique in its ability to provide stable donor funding over longer periods than most grant-based funders, and also supports integrated approaches at the outset. However, many landscape initiatives are not as fortunate, and must cobble together disparate sources of funds from year to year.

Based on the scoping survey and case studies, a general pattern of the integrated landscape investment continuum emerges. This general pattern will differ depending on the initiative types, based on the relationship between the governance and leadership characteristics, which appears to have implications for how different ILI types are financed (e.g. NGO-led ones may depend more on patient capital, government-led ones may rely more on development finance institutions). However, similarities center on: a) the long timeline necessary for integrated initiatives; b) the significant investment needed, particularly in the early years to support dialogue, capacity building and developing the proof of concept; and c) a mixture of different donor and investor types that are best suited to different stages of a landscape approach.

The investment continuum starts on the left side of the Figure 3, with patient capital committed as philanthropic, public sector and DFI grants, and in some cases local government funds, to support the beginning stages of stakeholder consultation and coordination, testing

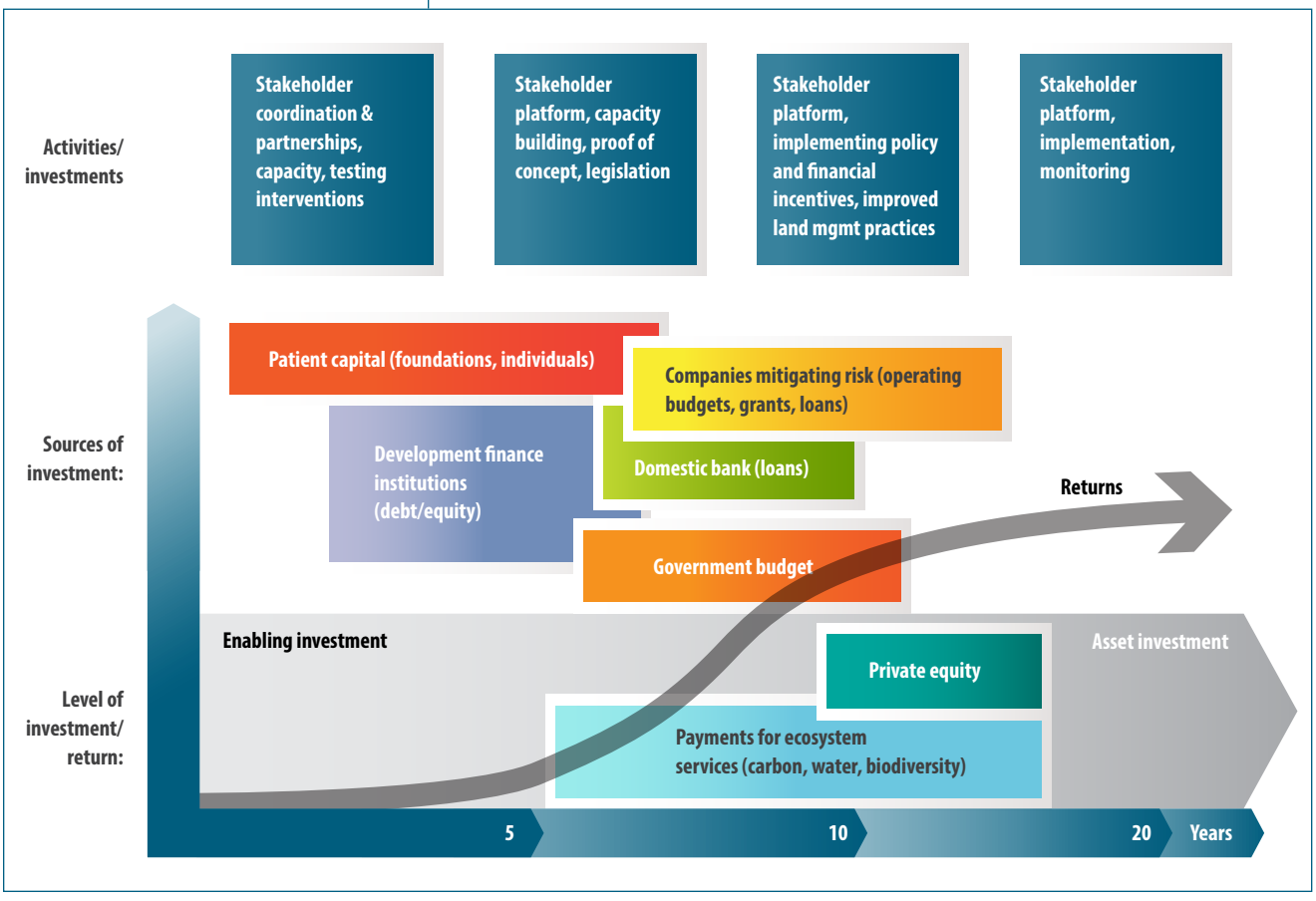

Figure 3. *Integrated landscape investment pathway*

concepts, and building capacity. In fact, efforts at this stage may still be single-sector approaches unable to achieve their goals, in which actors are searching for solutions and other sectors that may help them to achieve their goals. At this stage, initiatives that are seeking integrated solutions to complex land use issues often cannot determine what the outcomes will be. Rather, the flexibility to adjust their goals as information is gathered jointly and solutions are negotiated is needed. Finding ways to support these processes to identify integrated solutions is critical.

Public sector commitment and investment in this first phase helps build the enabling environment, supportive policies, institutional frameworks, and technical capacity that is critical to test the proof of concept and deliver multiple benefits, rather than just profitable ones. Based on the scoping and case study results, the role of development finance institutions and patient capital is critical in order to commit early-stage capital (grants), which are often accompanied by technical support and partnerships to strengthen landscape initiatives. This is more commonly found with government-led ILM typologies, but applies to all initiatives, except traditional or community-led types. Initiatives appear to take a few years into this process in order to develop a cohesive vision across multiple sectors. Even if some of the activities in the first five years are commercial, investments in this phase are often primarily for testing concepts, creating pilots, investing in partnerships, and operating with below-market returns.

Once initiatives are past the five-year mark, their sources of finance may diversify or not. This diversity of funding appears to be linked to the strength of the proof of concept, strength of the stakeholder platform and its leadership. In this stage, initiatives may capture more CSR commitments, investments made by companies seeking to mitigate reputational or operational risks, domestic banks willing to offer below-market capital, or even government budget line item allocations (this occurs much earlier for government-led initiatives). Banks may be willing to offer below-market capital if loan recipients are aggregated to reduce lending and repayment risk, or better terms are negotiated on their behalf, as in the case of Equity Bank in Naivasha, Kenya providing low-interest loans for small-scale dams. It is important to note that innovate finance mechanisms, such as PES (payments for carbon, water, biodiversity), catalytic loan facilities, or other sources of finance to landholders rarely occur before the five-year mark unless they are associated with smaller pilots.

Different sources of finance are best suited to different stages in the development and implementation of

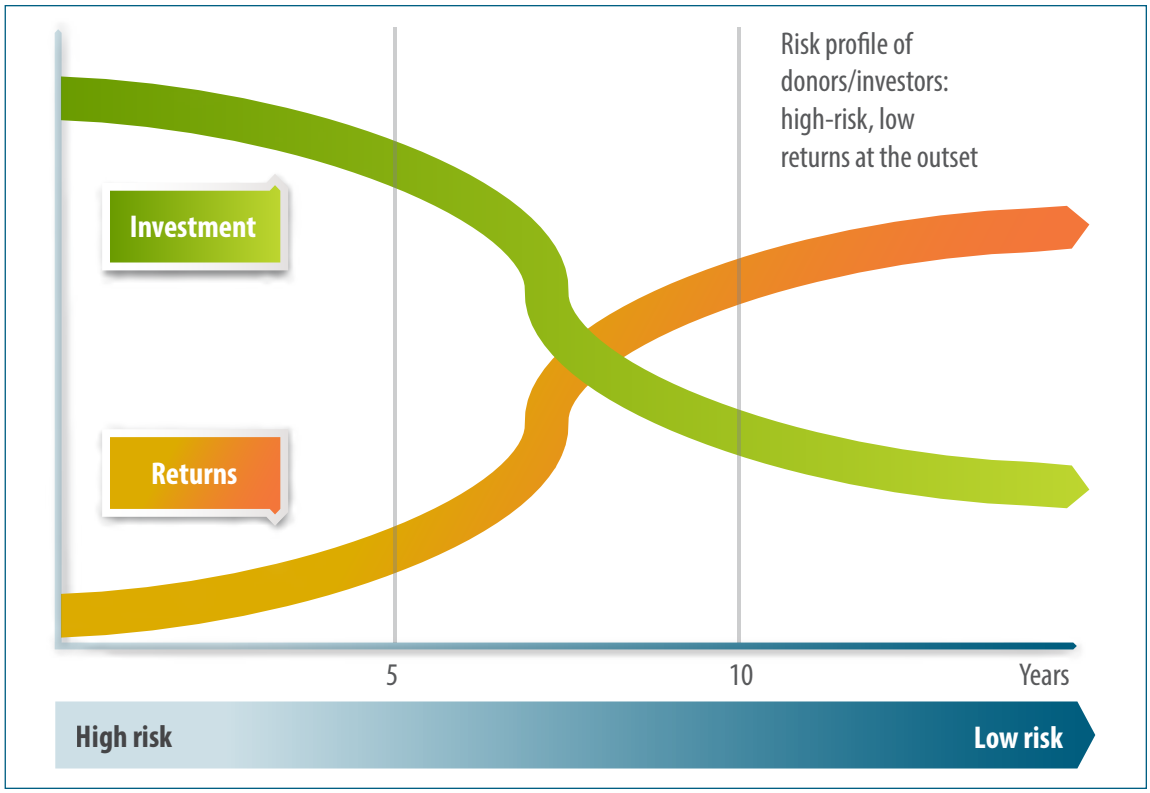

Figure 4. *Risk and return profile of donors and investors in ILM*

a landscape initiative, based on the risk/return profile of the investor and the particular finance needs at each stage. The investment needs at the outset of an initiative are high-risk, as outcomes may not be defined, agreements between stakeholders do not exist, and the proof of concept has not been generated. Figure 4 depicts this general pattern. High-risk/low-return donors or investors are those willing to put patient capital up-front, to support the types of activities generally outlined in Figure 3. These investments are often to support the enabling environment, institutions and capacity development necessary to forge integrated solutions. Patient capital and some development-oriented investors (such as DFI's) are willing to commit funds for 5-7 years or more, whereas more commercial investors prefer well-packaged entry and exit deals over shorter time-horizons. These investors are at the 'low-risk' end of the spectrum, and expect high returns. Land use interventions, such as improved agriculture production or silvo-pastoral systems, take time to generate returns, and are unsuited to short time-horizon investors with high-return expectations. The 'return' line in Figure 4 can refer to investments both within and outside a landscape. Landholders may need a solid proof of concept to invest in changes in land management just as much as an external investor does. There is an inverse relation-

ship between the high-risk and low-return investments in the early stages of initiative development, and the low-risk and high-return investments that are possible in later stages, when the enabling environment and proof of concept are in place. While the timing of the return on investment varies in each case, the review of ILIs indicates it rarely occurs before five-years, and is more likely towards the ten-year mark or beyond, depending on the context, and how 'returns' are defined and measured.

For landholders, an exit strategy is unnecessary, as increased returns accrue profits and new investments in the landscape. For external investors, a clear exit strategy is essential before deciding to invest. Based on the scoping results and case studies, private sector investment largely takes the form of:

1. Landholders investing in improved production, ranging from small-scale farmers to large-scale concession managers. In the Atlantic Forest, Brazil, this is largely driven by federal legislation and as a tool to increase legal compliance, whereas in Namaqualand, South Africa and Lake Naivasha, Kenya, these are largely private sector investments. Increasingly, there is an opportunity for banks to provide below-market rate loans for improved land practices.
2. Entities dependent on ecosystem service provision, who are willing to invest in that service, such as the PES scheme between Lake Naivasha commercial water users and smallholder farmers upstream.
3. International buyers of commodities from specific sourcing areas investing in sustainability and certification, as evidenced with the UK retailer group of ASDA, Tesco, Marks and Spencer and Sainsbury's investing in Lake Naivasha solutions and the Imarisha Naivasha Board's operating costs in order to mitigate reputational and operational risks. This also encompasses supply chain investments at production through processing levels.

Barriers to improved financing for integrated landscape management

Strong leadership within the landscape initiative is essential in order to maintain the broad vision needed to deliver on integrated objectives, coordinate disparate sources of finance to achieve those objectives, and coordinate stakeholders. The review of 104 LPFN Latin America landscape initiatives strongly demonstrated that the initiative's success often depended on an individual leader/organization or strong committee management in order to obtain finance and achieve goals. Those initiatives without a solid, focused leader struggled to obtain finance. The strength of the Imarisha Naivasha Board is crucial in order to maintain a broad vision of integrated management, particularly as the role of the central government in the initiative has diminished since the last election.

Scoping and case study results indicate that the institutional planning and stakeholder coordination process elements are directly linked to success in reaching measurable outcomes. However, anecdotal evidence suggests donors prefer demonstrable outcomes (e.g. hectares protected, smallholder incomes raised, and improvement in water quality) to institutional planning and stakeholder coordination. Institutional planning refers to the organization and administration within involved institutions, and stakeholder coordination refers to the dialogue, problem-solving and information sharing between organizations and stakeholders. Some donors, such as the CEPF, have specifically invested in institutional planning and stakeholder coordination over the first five years, with a few to 'handing off' that operational cost to other partners over time. Based on the Latin America and African LPFN continental reviews, institutional planning and coordination is the largest activity that initiatives invest in—meaning that in order to achieve demonstrable outcomes (e.g. water quality improvements, hectares of degraded land restored), significant investments in this area must be made. Investments in institutional planning and stakeholder coordination are often not direct. LPFN continental review insights suggests that initiatives approach donors for funding for specific outcomes, then steer some of the funds to institutional strengthening and stakeholder engagement, transportation to meetings, mediation and other functions that may not be a high priority for the donor.

Public investment plays a key role in supporting landscape coordination and building the enabling environment, however public sector insti-

tutions are often highly siloed. Also, public/domestic funding sources are often at the whim of political changes, and therefore funding timelines can be short or priorities can shift. Strong stakeholder platforms help to diversify the investment based for integrated management, and can also demonstrate to the government wider public and stakeholder support for integrated outcomes.

Integrated initiatives require specific investments to get the finance and incentives structure right to influence sustainable land use. While the SKEPPIES small-grants facility, established in Namaqualand, South Africa, provided a critical source of funds for projects demonstrating conservation and socio-economic benefits, it has been the primary source of finance to motivate alternative land use approaches. As such, other alternatives were not explored, such as mechanisms to operationalize the legal obligations that mining companies have to restore mining sites. In contrast, the Atlantic Forest, Brazil has benefitted from significant investments by the government, donors, the private sector and multi-lateral finance institutions to assess the feasibility of mechanisms ranging from PES, to mitigation funds, green bonds, and water user fees.

Carpets of Spring flowers, Namaqualand, Namaqua National Park - Skilpad Section, Northern Cape, South Africa. Photo by Winfried Bruenken, Wikimedia Commons.

How landscape actors overcome finance challenges

A landscape initiative allows various entities with a stake to 'sit around the table,' understand the local context, identify common risks and opportunities, and identify the conditions, level of risk, and return that each actor requires in order to engage. Undertaking coordinated actions at a landscape- or project-scale allows some key barriers, such as sector-based thinking and the difficulties of coordinating different sources of funding at different stages in the process and for different purposes, to be overcome. For instance, the targeted Espírito Santo Biodiversity and Watershed Conservation and Restoration Project provided a tangible means to engage state government, agricultural producers, the forest sector, municipal water company and the World Bank/GEF, in a complex program of interventions and investments phased over ten years.

An assessment of how financial incentives for landholders can have the greatest effect should be designed at the outset of the ILI. PES schemes that depend on a landholders' willingness to access financial incentives may not achieve the coordinated and synergistic landscape management outcomes hoped for. While still too early to assess whether this will be the case with the Reflorestar PES program in Espírito Santo, Brazil, it is clear that the Federal Forest Code and other related laws provides an important 'stick' to motivate the landholder. Further, the spatial targeting in the primary watersheds serving metropolitan Vitória, Brazil, by the World-Bank and GEF-funded components of the project help to maximize Reflorestar's operational and financial efficiency. However, it will still be necessary to evaluate whether this is sufficient to meet landscape management objectives, or whether the most that can be achieved is a "sum of the parts" approach.

Each case study landscape initiative has prioritized investments based on strategic assessments of how to direct finance to achieve the greatest impact. For instance, in the Atlantic Forest, Brazil, an assessment was made of how to gain increased ecosystem function without investment through natural regeneration, as assisted regeneration and replanting is very expensive in the region. This was followed by deciding to develop the information systems required to track legal compliance, and deploying smart investments and incentives to motivate compliance. Thus, a significant amount of investment in improved land management could eventually be made by landowners themselves, while also improving their long-term profits (due to improved management practices and maintenance of ecosystem services

on which they depend). Imarisha Naivasha focused investment in "no-regret" activities. They also focused on identifying the value to ecosystem services (such as adequate quantities of water for the floriculture industry) to stakeholders that depend on them. In the Succulent Karoo, SKEP focused investment in areas with the least capacity, thus narrowing in on the Namaqualand region, rather than the entire biome. SKEPPIES was established as a means to help businesses overcome upfront investment costs for multi-benefit outcomes, but also to provide considerable funding to develop a scientific basis of information on risks and management options. Lastly, SKEP prioritized for investment particular areas of high conflict and/or with the highest ecological and socio-ecological values, with a focus on incentivizing actors to change land use practices in these areas.

Finance and incentives cannot stand alone, but must be smartly deployed within a well-designed enabling environment (e.g. policies, strong stakeholder engagement, technical assistance, capacity) through an integrated approach that delivers the right interventions at the right scale. As the Forest Code revisions, national water laws and iterations of Espírito Santo's PES law (and even the current revision of the national PES law) demonstrate, getting the policy right is crucial, and these policies must be tailor-made to fit local circumstances. These policies were designed to motivate a range of investments and innovations in finance, which has spurred considerable private sector investment, though much more can be done. In cases where there is an over-reliance on government funding, or a single source of revenue such as oil and gas royalties, other ecosystem service users can "free-ride" and gain the benefits without participation. Adequate information on ecosystem user exposure to environmental (and social) risk is critical to motivate adequate investment to address those risks.

Catalytic funds could provide a means for gathering actors at a landscape scale around integrated management outcomes and provide the necessary standards and guidelines (including covenants or bi-lateral agreements) to guide investment from a range of sources. Though not yet not yet screening investment for agricultural green growth, the SAGCOT Catalytic Fund provides one example of how this type of fund could work, as a mechanism to formally engage the collaboration between land management practitioners and investors to look for integrated management solutions and define how various investors could leverage participation of others. Such a landscape-based fund could have multi-objective investment windows. This can be an important tool for matching longer-term patient capital with shorter-term low-risk investments in agricultural production or water infrastructure that is compatible with landscape.

Recommendations: Finance and investment design that better supports ILM

Development finance institutions (DFI's) can play a larger role to enable multi-functional finance packages.

The case study that best demonstrates success implementing a multi-functional finance package is the World Bank's involvement in Espírito Santo, Brazil. The World Bank has focused critical grant funding and technical assistance through the Espírito Santo Biodiversity and Watershed Conservation and Restoration Project, cultivating a multi-sector (public and private) and multi-year finance package. The World Bank spatially targeted investment in two key watersheds serving 95% of the Greater Vitória Metropolitan Area water supply, in order to influence agriculture and forestry practices in the watersheds through the Reflorestar programme. The Bank's grant funds for watershed management, biodiversity in protected areas (as well as corridors through production lands), and mainstreaming biodiversity conservation in production landscapes enabled a complex set of activities to be supported through an integrated mechanism. The Bank's leadership role in the project also enabled essential technical capacity needed to design the payments for ecosystem service scheme in such a way as to encapsulate previous sector-based and stand-alone projects into a more holistic and integrated approach. A second phase of World Bank multi-functional support is set to begin in 2014, with significant debt investment being made in water sanitation, road improvements and risk management.

Creative partnerships should be pursued between stakeholder platforms and banks.

The Atlantic Forest PACT in Brazil is enabling integrated management through its members, but it cannot play the role a development bank can to deliver the multi-functional finance package necessary. However, the Brazilian National Development Bank (BNDES) already oversees a range of public funds deployed as credit and loans to landholders in the Atlantic Forest. These include climate funds, the Amazon Fund, Mata Atlântica Fund, ABC Plan credit lines, and rural credit programs. However, BNDES does not have an explicit mandate to oversee integrated finance in the Atlantic Forest. There is a leadership and finance institution gap, which could be addressed through a partnership between the PACT and key banks (e.g. BNDES and Banco do Brasil) to oversee an integrated and blended finance program for the region.

DFIs and institutional investors/ pension funds need to work together.

Anecdotal evidence suggests this is a large gap. Institutional investors represent the largest potential pool of capital still largely untapped for integrated approaches. However, these investors often do not understand the complexities of integrated approaches and are currently unable to differentiate between 'risk' and 'impact' factors in investment opportunities. This distinction is important, particularly in longer-term agricultural and forestry projects. Institutional investors are increasingly aware of environmental and social risks, but more information is needed to gauge how this impacts portfolio performance. [11] As key actors enabling blended and multi-functional finance in landscapes, DFI's can play a key role in courting institutional investors, and defining investment entry and exit pathways within an integrated approach. DFI's often have well-tested safeguard policies in place that could increasingly provide the means to incorporate landscape level risks into investment decisions.

Conveners or aggregators can play an important role to align stakeholders and phase investment or help blend finance arrangements.

This is evident based on the case studies, but also additional interviews to inform this report. For instance, the Ecosystem Return Foundation (ERF) seeks to scale up the restoration of degraded ecosystems based on a business case, by matching companies, investors, people and local organizations in long-lasting partnerships. The ERF is selecting second generation projects that already have stakeholder engagement, using 4-returns model[12] as a means of scaling investment within inter-generational (20-year) sustainable profit models.[13] Another example of aggregation is a networked financing approach being piloted by the Landscape Fund to catalyze capital investment for sustainable land-use practices among smallholders and supply chains by driving down the risk associated with these investments, by aggregating investments while also generating important "non-carbon benefits" such as poverty alleviation and improved biodiversity management.[14] Conveners or intermediaries can also play a role in bringing expertise and prioritization screening into the selection of investment opportunities, when the finance mechanisms themselves do not include such selectivity.

Investment standards and guidelines should screen for landscape-scale risks in investments.

International Finance Corporation (IFC) performance standards have forced investors to take regional water security into account in investment planning, based on the vulnerability of water resources in Lake Naivasha, Kenya region. This example demonstrates how the im-

11. Dimson, E., I. Kreutzer, R. Lake, H. Sjo, L. Starks. 2013. Responsible Investment and the Norwegian Government Pension Fund Global: Oslo.
12. ERF seeks four returns: 1. Return of Natural Capital: fertile soils, carbon storage, water and biodiversity; 2. Return of Social Capital: jobs, income, cohesion; 3. Return on Investment: financial performance, CSR; 4. Return of Inspiration: people engagement, innovation, awareness and passion.
13. Ferwerda, W. 2012. Nature Resilience: ecological restoration by partners in business for next generations. IUCN Commission on Ecosystem Management and Rotterdam School of Management – Erasmus University: Gland, Switzerland and Rotterdam, The Netherlands.
14. Alforte A, D. Matias , L. Munden, J. Perron. 2013. Financing Sustainable Agriculture and Mitigation. CCAFS Working Paper no. 52. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS): Copenhagen.

pact and relationship of the company with its surroundings affects IFC investment decisions. While the IFC does not have a "landscape" lens as a formal part of its Sustainability Performance Standards, it does consider social, biodiversity/ecosystems and pollution as issues reviewed in-situ and at a landscape level.

In 2012, Norway's government pension fund divested from 23 companies involved in palm oil production on the grounds that they were not taking appropriate action to prevent greenhouse gas emissions caused by tropical deforestation. The Fund took the view that "(the companies) long-term business model was... unsustainable."[15] Many landscape actors interviewed for the case studies confirmed that most debt finance institutions (such as domestic banks) lack the tools to assess the financial benefits of integrated approaches.

Social and environmental guidelines and/or standards offer an important tool to help investors distinguish between investments that may result in higher reputational or operational risk and those that will not. Guidelines and standards also give governments, local communities and civil society assurances that social and environmental risks are minimized or mitigated. However, at present there is still a large disconnect between standards and guidelines and workable project-level metrics on social and environmental performance, and very few if any contain criteria specific to risks beyond the farm-, project- or business-scale. There is also very little documentation of how integrated landscape management improves farm-level and regional income and relates to the financial value and viability of investment opportunities.

Climate finance can be an important means of addressing risks that cross-cut multiple investment areas in a landscape initiative.

The IFAD Adaptation for Smallholder Agriculture Programme (ASAP) is identifying ways to mainstream climate finance into development finance, as a means for climate risks to be incorporated into investments across a broader portfolio, thus affecting a greater scale. One example is IFAD's loan contributions to the Mount Kenya East Pilot Project for Natural Resource Management (MKEPP-NRM), which complemented the GEF's grant, providing support for 558,145 smallholders and individuals through a comprehensive set of activities that included: a) water resource management; b) more appropriate agricultural practices (agroforestry and river bank protection); c) the introduction of energy-efficient cooking stoves and charcoal kilns; d) reforestation; and e) support for ecosystem management.[16]

15. Ibid.

16. International Fund for Agricultural Development (IFAD). 2013. The adaptation advantage: The economic benefits of preparing small-scale farmers for climate change. IFAD: Rome.

Box 1. Innovations in public-sector climate finance for landscape benefits

Public-sector climate finance is increasingly being viewed as a means to de-risk private sector investment for integrated outcomes and multiple benefits.

The World Bank BioCarbon Fund (BioCF) is developing a new, third tranche, seeking to scale up climate-smart land use and deliver multiple landscape-level benefits. For Tranche 3, the BioCF will help orchestrate a range of incentives and technical assistance to develop the enabling environment for integrated approaches to mitigate climate change, enhance food security, and increase local community resilience through reforestation, REDD+, agriculture, and biomass energy. The BioCF will apply new financial and implementation structures that link various public and private donors and investors along the investment continuum. Blended (public/private, high/low risk) and phased investment (REDD+ readiness to payments for verified emissions reductions) will occur at the landscape level. Most REDD+ transactions to date have relied on a project-based approach, with high transaction costs and complexities in measurement and monitoring. However, the BioCF seeks to overcome these barriers to "test large-scale approaches that require a mix of policies and investments, integration with national development strategies, use of innovative financial structures, and involvement of multi-stakeholder approaches." Some landscapes included in this scoping could be candidate landscapes for BioCF investment, particularly those that have already developed their integrated proof of concept, have functional multi-stakeholder platforms, and have begun implementation, but would benefit from the leverage and potential for scaling that the BioCF could provide.

The goal of USAID's 2012–2016 Climate Change and Development Strategy is to enable investments in clean energy, sustainable landscapes and adaptation to climate change that are all also investments in sustainable economic growth. The first of USAID's three strategic objectives for the strategy is accelerating the transition to low emission development through investments in clean energy and sustainable landscapes. To make tough decisions about where to focus resources, USAID has defined criteria to programmatically steer dedicated climate change funds. The sustainable landscape criteria "prioritizes work with partner countries with globally important forest landscapes (e.g. the Amazon basin and the Congo basin which have high current and future carbon storage potential); high demonstration potential (e.g. early movers able to demonstrate credible resultsbased payments for carbon storage under REDD+ programs); commitments to developing monitoring, reporting, and verification systems, and enabling policy structures such as land and resource tenure."

The International Fund for Agricultural Development (IFAD) launched the Adaptation for Smallholder Agriculture Programme (ASAP) in 2012 to make climate and environmental finance work for smallholder farmers, and to introduce climate risk into US$1billion per year of development finance and investment. ASAP seeks 'multiple-benefit' approaches to smallholder agriculture, to improve production while reducing and diversifying climate-related risks. ASAP is a multi-year and multi-donor financing window within IFAD, providing a new source of co-financing to scale up and integrate climate change adaptation.

Achieving integrated outcomes takes deliberate design and coordination. In Brazil, the ABC Plan for low-carbon agriculture seeks to incentivize activities very similar to those PACT is pursuing, including rehabilitating degraded pastures, agro-silvopastoral systems and agroforestry, and afforestation, but it is still unclear how ABC Plan credit can leverage or complement other sources of funds for the same activities. Even if finance

is in place, interviewees suggest the bigger challenge is to demonstrate to farmers that converting degraded pasture to forest is financially viable, in order to encourage farmers to access loans and engage in these activities.

In Lake Naivasha, assessment of climate change impacts and opportunities for climate resilience is lacking and yet of great need for agricultural production, reliance on water supplies, and even infrastructure and municipal services. The future impacts of climate change on key basin sectors is largely undocumented and yet can have significant impacts, particularly on critical ecosystem services, such as water, forests and biodiversity, on which each sector depends. A large opportunity exists to bring a greater focus on integrated management through a climate lens. An integrated approach based on climate finance could also draw tangible connections between existing national priorities, such as Kenya's national adaptation plan and national REDD+ plan, which prioritizes the Mau catchment, of which Naivasha contains a portion.

Leveraging integrated finance from climate-focused sources can help identify priority risks and opportunities, and can also better inform private sector and development partner investment decisions.

The World Bank BioCarbon Fund Tranche 3 seeks to develop new financial and implementation structures that link various public and private donors and investors along the investment continuum to support climate-smart land use. Deliberate convening and multi-stakeholder collaboration will enable blended (public/private and high/low risk) and phased investment (REDD+ readiness to payments for verified emissions reductions) at the landscape level. Similarly, USAID's Climate Change and Development Strategy [17] applies landscape-level criteria to steer public-sector climate investments (see Box 1 for more detail on innovations in public sector climate finance), as one of its three objectives. Both the BioCarbon Fund and USAID's investments dedicate a portion of investment to support the enabling institutions for the public sector as well as those required to attract appropriate private investment in climate-smart land use.

17. USAID. 2012. Climate change and development: Clean resilient growth. USAID Climate change and development strategy: 2012-2016. Available at: http://www.cgdev.org/doc/Rethinking%20Aid/Climate_Change_&_Dev_Strategy.pdf

Insights from the case studies point to the importance of REDD+ as an integral part of financing broader sustainable landscape management in mosaic landscapes.

The experience in the Atlantic Forest, Brazil illustrates the importance of enabling policy and regulatory frameworks, and the role of finance to incentivize legal compliance for forest conservation. The Atlantic Forest also demonstrates how those who value the forest most—ecosystem service users dependent on municipal water supplies—may not yet adequately value the service forests provide, or understand the importance of strategic investments to maintain the service (which in all cases is far more economical than constructing new water treatments plants). Information systems are critical to create awareness of forest values, eliminate conflicts and to monitor the use and legal compliance. Information systems that are developed to serve integrated landscape management needs (e.g. forests, water, pasture, infrastructure and development) to have more utility in informing conflicts, possible trade-offs and areas for strategic investment rather than single-sector ones.

Hippopotamuses in Lake Naivasha, Kenya. Photo by Krista Heiner/EcoAgriculture Partners.

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