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Policy Focus

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Financing strategies for integrated landscape management: implications for climate policy

The financing challenge for integrated landscape management

Integrated landscape management (ILM) refers to long-term collaboration among different groups of land managers and stakeholders to achieve the multiple objectives required from the landscape. These typically include agricultural production; provision of ecosystem services (such as water flow regulation and quality, pollination, climate change adaptation, REDD+, and cultural values); protection of biodiversity, landscape beauty, identity and recreation value; and local livelihoods, human health and well-being benefits. Stakeholders seek to solve shared problems or capitalize on new opportunities that reduce trade-offs and strengthen synergies among the different landscape objectives (Scherr et al. 2013). See Box 1 for the five elements of ILM.

ILM finance refers to the funds required to support on-farm and off-farm investments that deliver ILM's multiple objectives. These activities can include sustainable agricultural management activities such as agroforestry, conservation tillage and rotational grazing that are coordinated with other activities within the landscapes, as well landscape-scale interventions related to ecosystem protection and restoration. Financing of the institutions that enable landscape coordination and create incentives for ILM are also critical. These include the development of stakeholder planning platforms, supportive policy and the development of product and ecosystem markets to support ILM activities. ILM finance therefore encompasses the direct investment in public goods as well as enabling investments (funding the generation of the incentive to invest, often by financial institutions with no expectation of financial reward) as well as asset investments (finance for an activity that creates tangible value, mostly through loans and equity investments) (Elson 2012).

ILM is often necessary to meet climate adaptation and mitigation goals at scale (Scherr et al. 2012). For example, REDD+ program planners are engaging with agricultural stakeholders within landscapes in their efforts to reduce rates of deforestation. Therefore, ILM finance is particularly important for international and national climate change policy-makers in the process of designing the mechanisms that will support land-use investments for adaptation and mitigation such as adaptation funds, REDD+ programs, Nationally Appropriate Mitigation Actions (NAMAs), and the Green Climate Fund.

Private, public and philanthropic investments in the components of ILM tend to be financed through sector-focused mechanisms (e.g.

Box 1: The five elements of integrated landscape management (Scherr et al. 2013)

1. **Shared or agreed management objectives encompass multiple benefits (the full range of goods and services needed) from the landscape**
2. **Field, farm and forest practices are designed to contribute to multiple objectives including human well-being, food and fiber production, climate change mitigation, and conservation of biodiversity and ecosystem services.**
3. **Ecological, social, and economic interactions among different parts of the landscape are managed to realize positive synergies among interests and actors or to mitigate negative trade-offs.**
4. **Collaborative, community-engaged processes for dialogue, planning, negotiating and monitoring decisions are in place.**
5. **Markets and public policies are shaped to achieve the diverse set of landscape objectives and institutional requirements.**

agricultural production, watershed management, forestry, biodiversity, bio-energy, community development), and integrated investment models are often seen to be risky relative to single-sector alternatives, particularly by private investors. This fragmentation and risk perception inhibit efficiency in ILM investments and limit their size. Despite some leading-edge innovations in this space, most public and private investment decision-makers are unaware or unconvinced of the benefits of investment in an ILM context or are unsure how to best link their investment objectives with relevant landscape-scale processes.

To provide guidance on how various finance and policy actors can engage with and benefit from ILM investments, the Landscapes for People, Food and Nature Initiative[1] is conducting a review of financing institutions as well as integrated landscape initiatives[2] (ILIs) to better understand the ways in which financing mechanisms support ILM, how actors within landscapes finance their activities and how existing models can be improved. This brief is based on the preliminary findings of this study which will be published in early 2014.

Triggers for landscapes to pursue integrated finance

ILIs develop through a combination of needs in three key entry points— agriculture, conservation, and livelihoods. Institutional planning and coordination cut across these entry points and are essential to all. Figure 1 identifies these entry points, illustrates the triggers to pursue landscape approaches, and provides general examples of the intentions behind 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 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 rows in the figure begin to merge as multiple investments occur to support multiple outcomes.

Institutional planning and coordination, which plays a role in every stage of this process and with each entry point, is a key attribute to 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. Even though landscape institutions are a significant area of investment need, they are often under-valued and under-financed.

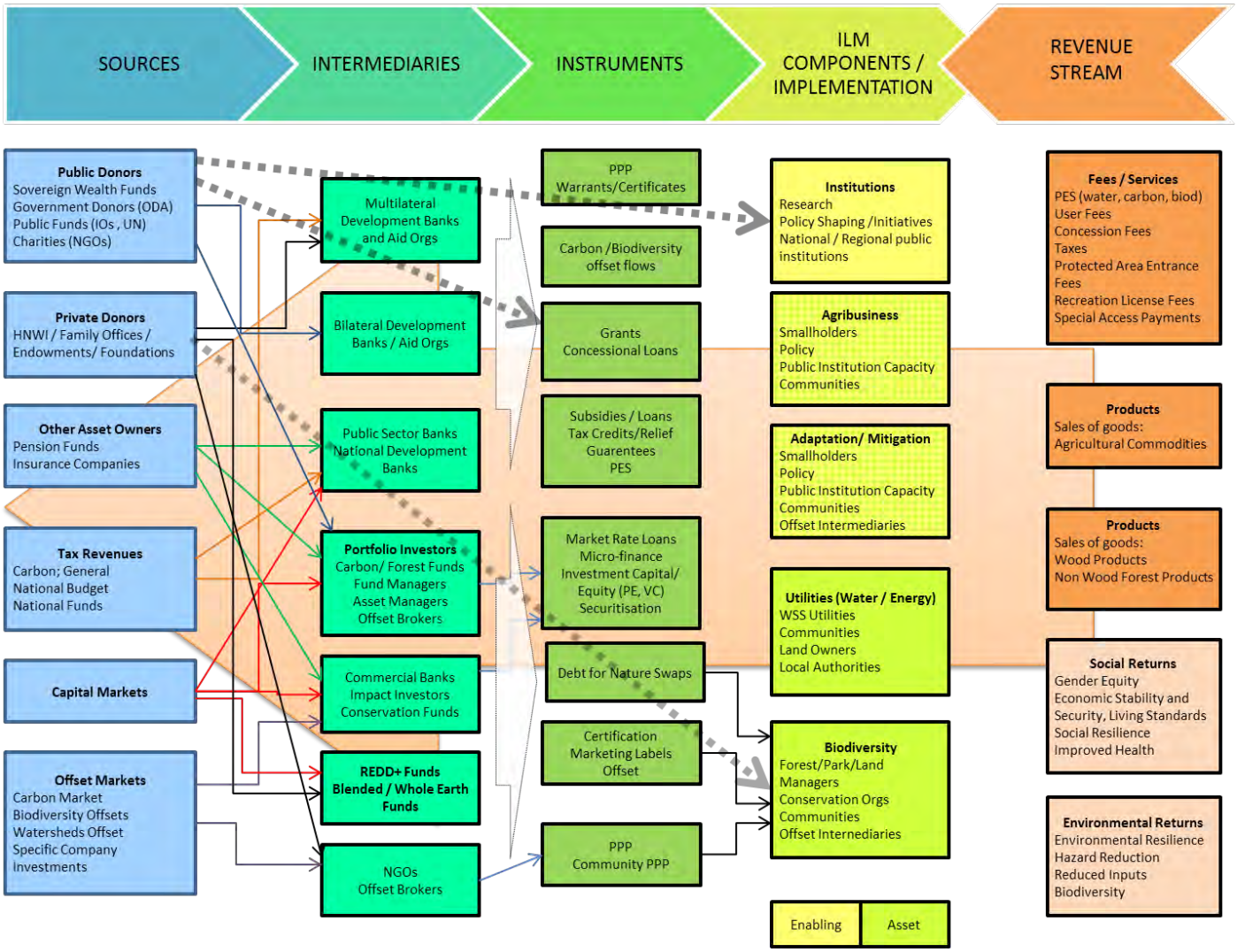
Sources of ILM financing

A scoping of institutions and mechanisms that finance ILM encompassed a wide range of public and private actors. This review, drawing on a desktop study and expert consultations, identified over 200 financial institutions and mechanisms that support various components of ILM, as well as a smaller number that support ILM explicitly through multi-objective financing strategies.

Figure 2 provides an overview of ILM financial flows, including sources, intermediaries, and instruments, as well the revenue

Figure 1: Investment entry point and intentions of investments in landscape initiatives

Figure 2: Mapping the flow of ILM finance (Framework adapted from Buchner et al. (2011))



streams flowing back to investors. Figure 3 illustrates the relative size of various ILM entry points, how finance is distributed across the public versus private sector and whether these are enabling or asset investments, as well as the role of sustainable agricultural production as the largest entry point to ILM followed by climate adaptation and mitigation. Financing for investments in watershed services, biodiversity and more nascent instruments that blend objectives and revenue streams to produce multiple outcomes and diversify value and risk, were found to be less available through current financing channels.

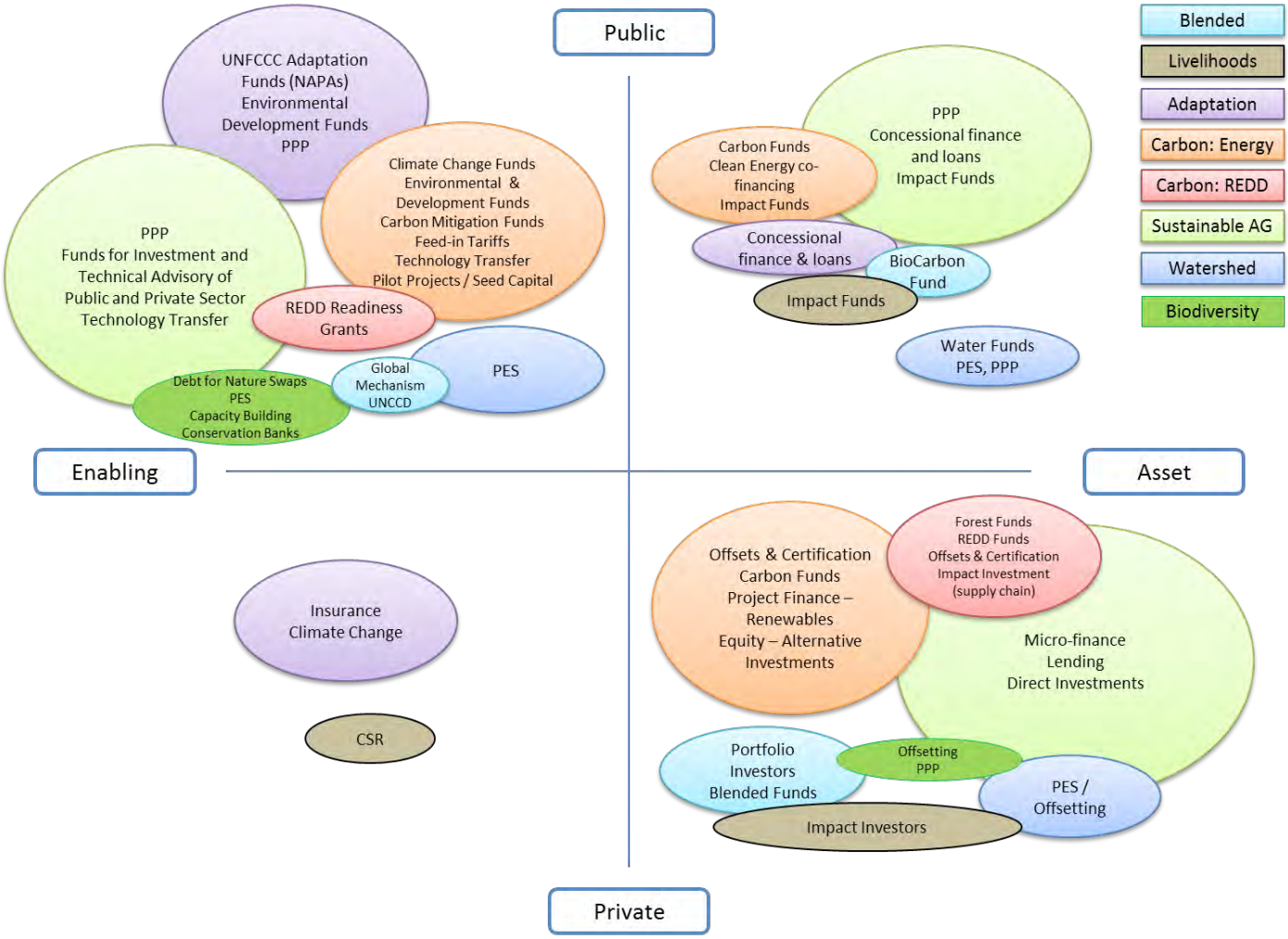
Role of the public sector

Public investments will need to provide the foundation for building the enabling environment that improves competitiveness of ILM-related activities versus more conventional alternatives. These enabling investments support policy development and implementation, institutional frameworks, technical capacity, and investment plans in order to leverage larger volumes of finance for asset investments from the private sector. In addition to supporting public goods, some public sector finance is profit seeking, although it may not be profit maximizing. Much of the public sector financing is deployed through grants and concessional loans. While institutionally, many of the relevant public sector agencies have a broad remit across multiple ILM components, the mechanisms through which funds are disbursed are often heavily siloed, focusing separately on food security and agricultural productivity, climate mitigation or adaptation, REDD+, gender, water supply and sanitation, biodiversity, disaster risk response, or poverty reduction.

Role of the private sector

Private investors and companies, naturally, are concerned primarily with financial returns and the associated levels of risk. Even for impact investors, a positive financial return on investment is expected, although it tends to be lower than comparable conventional investments, with social and environmental outcomes considered to be an important element of the total return. Private finance sources and intermediaries are extremely diverse. They include very large actors such as such as pension funds, sovereign wealth funds, insurance companies, national banks, high net worth individuals and large agri-business companies, as well as relatively

Figure 3: Matrix mapping out examples of ILM investments by sector and investment



Note: The size of the circle represents the relative size of the ILM entry point in each given quadrant.

smaller actors including microfinance institutions, informal money lenders, as well as farmers themselves and their friends and family.

The private sector engages in components of ILM through a range of instruments that can also vary over the lifecycle of a landscape initiative. This might include equity and debt investments to cover some of the upfront investment requirements, carbon finance or other off-take agreements, financial services such as insurance and reinsurance products (e.g. crop insurance or underwriting green bonds), as well as direct investments in sustainable agriculture, small-holder livelihoods, conservation and community development. Farmland equity investments have attracted increasing investor interest, with a small, but growing focus on sustainable land management practices (Hopper 2012).

Public-private partnerships

In some cases public and private actors work together to overcome a range of barriers related to information, capital failures, policy, technology or coordination (Global Green Growth Forum 2013). These partnerships bring together various combinations of private companies, governments, NGOs and development organizations. Such initiatives have ranged from 'Debt for Nature Swaps' (e.g., WWF, Conservation International, Citibank), to investment funds for carbon offset or REDD+ projects (i.e., Livelihoods Fund, Macquarie BioCarbon Group Pte, Deutsche Bank's African Agriculture and Trade Investment Fund), to biodiversity offset payments (e.g., AngloAmerican and SAB Miller), to Green Corridor coordination of ILM relevant investments (e.g., SAGCOT, WEF). These arrangements allow public and philanthropic actors to achieve greater impact than they could on their own, while private sector partners are incentivized to participate in order to reduce environmental risk in their supply chain (Kissinger et al. 2013), to fulfil corporate social responsibility goals, to maintain a 'license to operate,' and sometimes to access new markets by raising their profile in emerging economies.

Challenges

The scoping exercise also uncovered challenges faced by current public and private investors in ILM as well as major impediments to scaling up ILM financing. The key challenges fall into three broad categories: difficulties with integration and coordination of investments within a landscape, the perceived high risk and low reward profile of ILM, and the large scale often required for landscape investments.

Coordination of landscape investments

For financing to effectively link with ILM, a platform for coordination and planning is required to enable coordination of sectorally-sourced investments and design of integrated investments. Even if individual investors are aiming for blended financial, environmental and social objectives, they are not able to achieve these on their own at a landscape scale without engaging other public and private stakeholders of a variety of sizes. Stakeholder coordination can also help to address potential misalignment between public policy and business objectives.

Public capital plays a critical role in supporting landscape coordination and building the enabling environment for ILM, yet public sector institutions (national governments, multilateral and bilateral development banks) are highly siloed. Therefore, the public sector is often not in a position to play a productive role in landscape coordination. In cases where government is not the key coordinator of ILM, other actors, as identified by a review of integrated landscape initiatives, have played lead roles. These conveners include traditional and community-led land management institutions as well as broad platforms initiated and led by a range of stakeholders. In some cases, landscape coordination has been driven by businesses (Kissinger et al. 2013).

Risk/reward profile

There is an enduring lack of clarity about the business case for ILM. In particular, monetizing the revenue stream for landscape-scale interventions that increase or sustain agricultural yields over time or enhance other benefits of local ecosystems is more complex and uncertain than calculating short-term returns from agriculture and forestry. Therefore, single-objective investments remain easier to manage and justify. Multi-objective investments, or those that support landscape-scale ecosystem services in order to derive farm-scale benefits, require sophisticated cost-benefit analyses which calculate net present value and long-term risk. Communication barriers and the lack of technical capacity of investment managers (e.g. level of social-ecological knowledge) also limit their ability to make the case for the value of ILM investments. Another constraint for private and public financing of asset investments, particularly for equity investments, is the limited exit options from early stage of engagement, meaning a clear ability to sell their shares once the funded enterprise has achieved the desired stage of capitalization and maturity.

Scale: Time horizon and size of investment

Engagement with ILM may require outside investors to sacrifice immediate returns in exchange for longer-term benefits. The time frame is also extended by high transaction costs associated with the relatively complex processes of due diligence (e.g. several site visits, analyzing incomplete records). This requires 'patient capital' and is a significant barrier to raising financing for ILM. A further challenge is that many long-term investors are unlikely to finance the relatively small deal sizes of some ILM investments. A project finance team at an investment bank generally does not work on deals under $50 million, and even development banks are most interested in investments above $5 to 10 million. Unless smaller ILM investment opportunities can be aggregated, it may be difficult for them to attract funds from development banks, much less investment banks or larger institutional investors, such as insurance and pension companies that are more comfortable in the $150-300 million range. Regardless of the size of the financial institutions, each investment will require a viable track record, a clear exit strategy and a means of diversifying risk. Figure 4 illustrates the funding gap resulting from this challenge of investment size, time horizon and risk. It is this gap that innovative investors in ILM need to fill.

Innovations

Due to these challenges of coordination, risk/return profile and scale most financial actors do not engage with ILM. Capital, both public and private, is still directed through siloed- and single-focus funds. A handful of large, conservative actors such as development finance institutions, pension funds, and sovereign wealth funds have been identified as having an interest in innovative projects with multiple social and ecological returns at a landscape scale. However, due to high transaction costs and the long-term, up-front financing requirements necessary to engage with many ILM investments, the most innovative mechanisms in this space are relatively small in number and scale. Nevertheless, a number of public and private sector financial institutions are beginning to engage with ILM, and landscape actors themselves are also taking the initiative to work within existing finance and policy contexts to stitch together financing for their activities.

Financial institution innovations

Drawing on the scoping study conducted on financial institution engagement with ILM a set of institutions was selected for further analysis of the ways they are working to overcome the challenges described in the previous section and the barriers they continue to face. These represent a range of public and private sector institutions which are, to varying degrees, attempting to move beyond siloed entry points to either seek out more robust, long-term financial returns based on ecosystem or social investments or directly target ecological or social benefits in addition to financial returns. Full cases will include Althelia Ecosphere, Moringa Fund, Ecoenterprises Fund, World Bank Biocarbon Fund, Global Environmental Facility, Bunge environmental markets, NORAD's Norway's

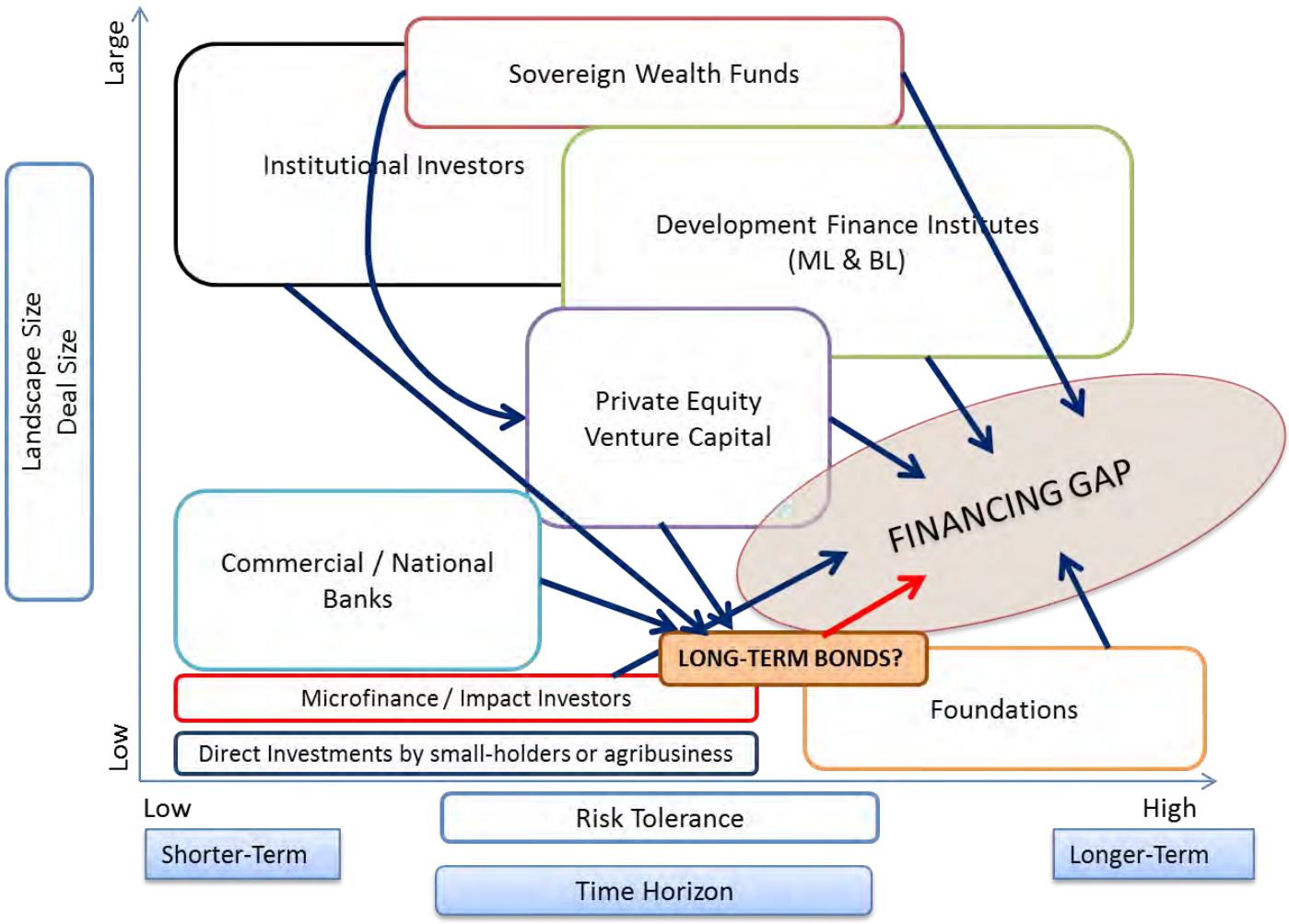
International Climate and Forest Initiative (NICFI), and a broad suite of options through agricultural and farmland finance (Rabobank, TIAA CREF, US AID, AgroEcological, Nestlé). Shorter cases will be developed for other innovative mechanisms including the INARI fund, The Global Mechanism, People and Planet Holdings, MacQuarie Bank/FFI and the Livelihoods Fund.

Landscape stakeholder innovation

As financial institutions develop models to overcome the challenges of ILM finance, stakeholders within landscapes are working within current constraints to carry out their activities. A review of the financing arrangements for 27 integrated landscape initiatives identified five major initiative types, based on the convening actors. These convener types include government or multi-lateral institution initiatives; regional initiatives or platforms; traditional, local or community initiatives; NGO or civil society initiatives; and private sector initiatives. More than one of these can be represented in a given ILI.

Innovation is found in all of these types. Government-led initiatives consistently tap into multi-lateral and development finance institution (DFI) funds. Regional initiatives and platforms do as well, but they tap into a much wider range of finance, including commodity roundtable investments (if one is involved) or even in-kind donations. In contrast, community-led or local initiatives rely more heavily on private foundations, payments for ecosystem services or locally-raised finance, and some have even created trusts or stewardship endowments, likely with external support. NGO-led initiatives rely on the same sources as the community-led initiatives, but can have a larger funding base which may also include multi-lateral and domestic development banks or government grants and technical support. Large private sector finance is noticeably absent from most initiatives except in cases where a private sector actor is seeking to mitigate specific production risks to the business, supporting producers in their supply chain, directly buying or selling ecosystem services, paying directly for ecosystem services, or mitigating regulatory, operational or reputational risk. Also, government investment in private-sector-led initiatives appears to be primarily focused on supporting stakeholder dialogue or interventions to safeguard public assets or values, such as assessments of carbon finance in high-risk commodities, often channeled through NGOs.

Figure 4: Challenges of scale: investment size and risk appetite



Recommendations for climate policymakers and program managers

Based on the findings from our initial scoping, the following actions are recommended to climate policy and finance decision-makers.

1. Coordinate climate investments with those of other relevant sectors to support ILM.

ILM strategies are often necessary to support climate adaptation and mitigation objectives, but they are also supportive of the goals of agricultural and natural resources sectors. Therefore, coordination of investments across sectors can increase the efficiency and effectiveness of funding programs. Climate finance can be used as a funding source, among others, to support cross-sectoral policy coordination at national and sub-national levels. At the international level, cross-sectoral integration can be encouraged through greater communication and coordination of work plans among the Rio conventions as well as with agricultural and food security policy processes such as the Committee on World Food Security.

2. Design climate adaptation and mitigation programs to support the enabling institutions required to attract appropriate private investment to ILM.

If climate programs do recognize the benefits of engaging with ILM, program managers will need to deploy their resources effectively towards overcoming the most critical barriers to attracting the kinds of private investment that are supportive of ILM objectives. These enabling investments include support to landscape coordination and planning platforms, improved land governance and risk guarantees. Risk guarantees will be required for credit, market, operational, reputational and legal risks to attract investment in this space where there is a limited track record. Instruments such as first-loss protection and partial guarantees that shield investors from a pre-defined amount of financial loss can enhance credit worthiness and improve the financial profile of ILM investments. Risks (relating to carbon market uncertainty, for example) can also be mitigated through a mix of diversification, certification and the provision of advanced market commitments (AMCs), as well as by applying environmental, social and corporate governance (ESG) management and performance criteria for risk avoidance and risk management.

3. Create multi-objective investment mechanisms.

In some cases, program managers may wish to move beyond cross-sectoral coordination and create new financing mechanisms designed explicitly to meet multiple climate, ecological and social objectives.

Examples from the case studies of multiple revenue stream models include Althelia and Moringa. The INARI model would use long-term bonds and a risk guarantee mechanism for meeting REDD+ project development objectives. The Global Mechanism provides guidance to countries on how to integrate agricultural and environmental objectives. Examples from the landscape initiative assessment identifies mixtures of payments for ecosystem services, a green stock exchange, as well as efforts to develop finance coordination mechanisms which bring together private and public sector investments. Experience from these leading cases can be drawn into the development of new mechanisms that support a variety of ILM components.

4. Formulate financing strategies based on input from landscape stakeholders.

As demonstrated by the cases of landscape initiative innovation, when faced with difficult financing environments, landscape stakeholders can innovate to find solutions to fund their landscape-scale activities. Various sources of climate adaptation and mitigation finance can be coordinated with other co-located agricultural, rural development and conservation activities to support ILM investments. Groups in the Atlantic Forest of Brazil are currently testing market-based and public-sector funded approaches that link ILM activities to legal frameworks, cross-sectoral collaboration, and various incentive, disincentive and enforcement tools to increase the stability of investments and outcomes. Lake Naivasha, Kenya is another example in which multiple sectors and stakeholders are creating new financing arrangements to improve sustainability among the largest water users, as well as the farmers in the upper catchment.

Policymakers should learn from the experiences of landscape initiatives, so that they can remove barriers to scale them up and enable new ones to emerge. Landscape stakeholders can also be better informed about the public and private resources available to support them, and how to maximize the risk/return profile of various investors and donors over the lifespan of initiatives, in order to fulfill ILM objectives. This knowledge can be exchanged through policy dialogues that bring together relevant national and sub-national policymakers with representatives of integrated landscape initiatives.

Box 2: Recommendations for climate policymakers and program managers

1. **Coordinate climate investments with those of other relevant sectors to support ILM.**
2. **Design climate adaptation and mitigation programs to support the enabling institutions required to attract appropriate private investment to ILM.**
3. **Create multi-objective investment mechanisms.**
4. **Formulate financing strategies based on input from landscape stakeholders.**
5. **Develop tools to calculate risk and return across multiple dimensions, over time.**

5. Develop tools to calculate risk and return across multiple dimensions over time.

A central challenge for investors to engage in ILM is the difficulty they face in calculating expected returns over time. This task is difficult enough for cases in which investments are made in ecosystem improvements, which are designed to translate into purely financial benefits from agriculture, forestry, or water over time. The task is further complicated when ecosystems and community benefits are valued directly by the investor, as is the case with impact investors, development and conservation organizations, and many public agencies. Investors require improved methods of identifying which landscape investments represent viable business models to provide stable and diversified returns. Similarly, all stakeholders need investments in informed decision-making processes (e.g. science-based research, economic projections) in order to pursue ILM and to understand its value. This often requires both public and private sector investment and public-private partnerships.

Tools do exist, and are increasingly being developed, to help stakeholders and investors calculate risks and returns in landscape interventions. One tool developed by the British American Tobacco Biodiversity Partnership is the Biodiversity Risk and Opportunity Assessment (BROA), a field-based tool for companies with agricultural supply chains. BROA assesses business risk due to dependencies on biodiversity and ecosystem services which require landscape-scale management. A number of tools also exist to create a 'water footprint' and water risk assessment. SABMiller's use of a water risk assessment is a strong example of how to translate broader risk calculations into the identification of impacts on business operations and mitigation priorities (Kissinger et al, 2012).

Endnotes

1. The Landscapes for People, Food and Nature Initiative is an international collaborative initiative of cross-sectoral knowledge sharing, dialogue and action to support the integrated management of rural landscapes for food production, ecosystem conservation, and sustainable livelihoods.

2. An Integrated Landscape Initiative (ILI) has been defined "as a project, program, platform, initiative, or set of activities that: (1) explicitly seeks to improve food production, biodiversity or ecosystem conservation, and rural livelihoods; (2) works at a landscape scale and includes deliberate planning, policy management, or support activities at this scale; (3) involves inter-sectoral coordination or alignment of activities, policies, or investments at the level of ministries, local government entities, farmer and community organizations, NGOs, donors, and/or the private sector; and (4) is highly participatory, supporting adaptive, collaborative management within a social learning framework" (Milder et al. 2014: 70).

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