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Bridging funding gaps for climate and sustainable development: Pitfalls, progress and potential of private finance

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ABSTRACT

In a world where natural capital is often unpriced or undervalued, thus making resource exploitation very lucrative, environmentally degrading activities will continue to dominate the economy. The past decade has seen a bourgeoning interest in scaling up private investment to address persistent socioeconomic and environmental challenges globally. The recently formulated sustainable development goals and global climate agenda have further heightened the urgency for a more holistic and integrated conceptualization of transitioning towards a sustainable low-carbon economy. Despite the increasing appeal of green finance as a concept, the delivery of an empirical evidence base that illustrates the effectiveness of projects aligned with climate action and sustainable development—both in terms of measurable performance and value for money—has been less forthcoming. Concurrently, there have been numerous claims of the potential of 'unlocking' the trillions of dollars of private finance that is available for investment. We perform a critical analysis of literature from across a spectrum of research topics to explore the inhibiting barriers and apparent disconnect between the purported available—or required—finance and the *actual* finance invested in sustainable development. Furthermore, we consider actions that government agencies and the research community might consider in order to better incentivize private investment in developing and low-income countries that will facilitate low-carbon sustainable development. We provide suggestions for fiscal and policy reform in addition to identifying the need for a centralized reporting and convening body. We conclude that far more coordinated efforts are required to encourage investments in long-term and sustainable landscape-scale initiatives. Current efforts at securing finance, implementing initiatives and building the knowledge base are accelerating but remain fragmented and often sectorial in their nature; we thus offer some key recommendations for areas of future progress.

1. Introduction

The world is in a transition phase propelled by the imperative to ensure that global average temperatures remain below 2 °C above pre-industrial levels (Peters et al., 2013; UNFCCC, 2015). Within this context, the boundaries placed on already stressed social-ecological systems result in increasing demands on land and natural resources (Gardner et al., 2009; Liu et al., 2007). Concomitantly, the global population continues to rise in both numbers and affluence (World Bank and International Monetary Fund, 2016), and yet alleviating poverty, maintaining biodiversity, and achieving food and water security, all within the context of an ever-changing climate, remain some of the greatest challenges of our time (Godfray et al., 2010; Laurance et al., 2014; West et al., 2014). In order to meet these challenges, we are facing uncharted territory that requires taking unprecedented action to recalibrate globally towards a low-carbon economy. Unlocking private finance is regularly regarded as a solution to achieving such change (African Development Bank et al., 2015), however the enabling political, regulatory and economic conditions that would stimulate redirecting the bulk of private sector investment towards meeting these goals remain unchanged (Parker et al., 2012; Almassy et al., 2015).

There is a long-standing awareness that funding for environmental and climate efforts is scarce (Ferraro and Pattanayak 2006; James et al., 1999). However, in recent years, there is a growing discourse claiming the availability of trillions of dollars to finance the global environmental agenda, simply waiting to be "unlocked" (World Bank, 2015). This review attempts to categorically quantify currently invested amounts in sustainable development efforts and reveal specific sums

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required to holistically fulfill global commitments towards climate, environment and development goals. While international fora discussions often mention trillions of dollars available, literature providing empirical evidence or concrete figures are scarce, with major inconsistencies in the available information. Here we discuss some of the pitfalls of contemporary funding structures and consider both the rate of current progress and the potential for emerging opportunities that could help to bridge the gap between finance ambition and reality.

While there are countless drivers and motivating factors to achieving global climate and sustainable development ambitions, there are a number of specific commitments and international agreements that have helped reorient the global focus. Most prominent among these are the UNFCCC Paris Agreement on climate change (Rogelj et al., 2016), the CBD Aichi targets for biodiversity (Blackie and Sunderland, 2015), and the UN Sustainable Development Goals (SDGs) (Steffen et al., 2015; Egler and Frazao, 2016; Waygood, 2014). Although these globally conceived commitments are welcome and almost universally supported, implementation efforts, and ultimately fulfillment of their ambitious goals, will continue to present persistent challenges. It has previously been noted that disconnects may exist between global commitments and the human and technological capacity to implement (Murcia et al., 2016; Holl, 2017). We agree with this assertion and further speculate that a similar disconnect exists between global ambitions and financial realities and that the mechanisms by which such commitments can be fulfilled will likely require transformations across scales of geographies, policies, and economies.

Financing options to support conservation, climate action, and sustainable development have been expanding in recent years and vary across different scales, types and time horizons—all of which are largely dictated by funding sources. Funds such as the World Bank BioCarbon Fund, the Clean Development Mechanism, the Global Environment Facility and the Green Climate Fund have emerged to support the global agenda. Capital can also be obtained from local, federal and international sources as well as disparate sources encompassing regional governments, conventional financial institutions such as banks and private equity firms, development finance institutions, private sector investment, high net worth individuals and others, although philanthropic and government sources dominate this space (Shames et al., 2014). This is problematic, since these sources can only fulfill a small fraction of the overall finance required to meet the sustainable development and climate agendas. As such, new funding structures and innovative collaborative partnerships represent important shifts in the financial markets to develop solutions. Calls for the up-scaling of finance have been directed at all levels of government and international funding agencies, accompanied by a recent focus on the private sector (Schuyt 2005; Stein et al., 2010). A recent multi-partner report of multilateral and regional development banks "From Billions to Trillions: Transforming Development Finance" makes clear that:

> To meet the investment needs of the Sustainable Development Goals, the global community needs to move the discussion from "Billions" in ODA [official development assistance] to "Trillions" in investments of all kinds: public and private, national and global, in both capital and capacity. . "Billions to trillions" is shorthand for the realization that achieving the SDGs will require more than money. It needs a global change of mindsets, approaches and accountabilities to reflect and transform the new reality of a developing world with highly varied country contexts (African Development Bank et al., 2015, p1).

There is a general consensus that current public funding to achieve meaningful sustainable development is insufficient and should thus be strategically used to leverage private sector investment.[1] However, the scope of operations and responsibility of financial institutions and individual private actors has altered due to risks presented by global environmental forces such as climate change. Environmental, social and political conflicts can ultimately result in business disruption. Meanwhile, ensuring business continuity is essential for private sector operations to mitigate risk. These issues are clearly integrated, representing a direct risk for financial institutions, governments, and private actors and emphasizes the need for collaborative and holistic frameworks, regulations and policies to mitigate risk and work towards a common goal.

Understanding current financial flows for the environment and development is complicated by myriad definitions and classifications for similar projects and the absence of mandatory reporting requirements (Scherr et al., 2013; Reed et al., 2016). Currently, there exists a dearth of empirical evidence and systematic knowledge of the financing scope specifically directed towards environmental and developmental sustainability action including climate mitigation and adaptation, holistic landscape approaches, ecosystem services, green supply chains, and biodiversity conservation (Sayer et al., 2017). Prior investigation on determining finance flows pertaining to sustainability is both fragmented and focuses primarily on niche topics such as watershed protection or climate change mitigation infrastructure. The issue is further convoluted by the multiple interpretations of what is considered "green finance" or "sustainability". As such, attempting to determine concrete facts regarding vague concepts is extremely difficult. It is crucial to have reliable, integrated information regarding the current status of financial flows across various domains, sectors and efforts such as climate change and sustainable development In order to properly assess the current state of financing and inform clearly articulated strategies and financial decisions to address gaps and allocate limited resources in the most efficient way possible.

By synthesizing recent literature, this paper provides an introduction to the current finance mechanisms for sustainable development efforts (including climate mitigation and adaptation, conservation, sustainable forest management, integrated land management, and landscape approaches) and explains some of the barriers to unlocking private sector finance. Although this is not a comprehensive overview—the scope of global financial markets and how they relate to sustainable development is too broad to be captured within a single review—this article represents a starting point from which further investigation can be built upon. We discuss the challenges and opportunities for investment potential in sustainable development activities (more specifically as they relate to climate and environmental initiatives) and provide some key recommendations to incentivize future private sector engagement. For ease of understanding—and in an acknowledgement of the multiple and diverse interpretations of implementation efforts—we henceforth apply the term "sustainable development" as an all-encompassing term for initiatives that contribute towards climate, environment, conservation and development objectives – although reiterating the point that all activities related to the SDGs is beyond the scope of a single review.

2. Methods

The foundation for this review is based on knowledge captured from previous literature reviews of integrated landscape approaches (Reed et al., 2016, 2017a). These reviews followed standard systematic review methodology and consisted of screening almost 17,000 peer-reviewed and grey literature documents related to reconciling issues of conservation and development (see Reed et al., 2015 for a detailed methodology). Despite these previous reviews being focused on the more specific topic of landscape approaches, the breadth of the search terms applied (Reed et al., 2017b) accounted for the retrieval of an abundance of literature related to the challenges of financing sustainable landscapes, amongst other landscape-scale issues for society and environment. This additional source of information, coupled with the first

[1] https://www.huffingtonpost.com/entry/unlocking-the-trillions-to-finance-the-15c-limit_us_59f05b63e4b057084e532cee.