Global Landscapes Forum

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Financial system innovations

How fintech impacts landscapes

UNEP

Inquiry into the Design of a Sustainable Financial System: Policy Innovations for a Green Economy

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Finance and the land use sector: The land use sector is a critical component of any cost-effective, sustainable growth scenario. Analysis by the Climate Policy Initiative and the Centre for Global Development, for example, estimates that the mitigation potential from land use is more than a third of global total mitigation potential.

Finance will play an important role in this land use transition. It is a fundamental component of the forest and agricultural production systems that impact the land use sectors. However, the provision of rural finance has historically been challenging due to high transaction costs and information asymmetries. These can be caused by factors such as covariant risks, low population densities in rural areas and the low appetite financial institutions often have for rural assets for collateral (such remote and often small parcels of land). Certain types of activities – such as the growing of tree crops – can also require relatively long loan maturities with irregular repayment schedules. This can increase the potential risk a financial institution faces from asset liability maturity mismatches compared to other potential uses of their funds. These factors contribute to a gradient of access to capital that is often observed amongst rural communities, where wealthier customers are able to access capital more readily than poorer customers.

Moreover, although behavior and activities in an agricultural landscape can be influenced by the availability and cost of credit, the financial needs of rural stakeholders are broader. The provision of insurance products is challenging in many rural areas but suitable and affordable products (e.g. crop and property insurance) could make a considerable difference to the livelihoods and behavior of some rural communities. Well-designed savings products are also an important financial service required by rural populations. Savings can help finance the capital expenditure gap between the loan amounts available and the sum required to make investments in productive assets such as better storage facilities or machinery. Lastly, services such as financial remittance products can be a valuable financial service, especially for communities where family members have traveled large distances to find work, often in cities.

Financial disruption and 'fintech': Traditional thinking on rural finance is often based on a static view of the financial system as it stands today. However, the financial system is in transition, in part resulting from policy and regulatory changes following the financial crisis, but increasingly as a result of disruption caused by new business models and products underpinned by technological developments. These financial technological developments are collectively known as 'fintech', which is broadly understood as a line of business based on using disruptive blockchain, artificial intelligence, the internet of things and robotics technologies, among many others, to provide financial services. It is already disrupting the financial system in multiple ways, and is likely to do so increasingly in the coming years.

These disruptions are at an early stage, and are wide ranging in their form and location. Further, there is considerable controversy as to their impact, with differences arising through diverse predictions of speed of adoption, the balancing effects of efficiency increases and the effects of speed and commoditization, as well as the likely policy and regulatory responses. A distinct aspect of such differences also concerns the differential effects on different classes of financial and capital markets, including whether developing countries might use fintech as a basis for leapfrogging today's more sophisticated markets beyond the most obvious cases, such as mobile payments platforms.

The United Nations Environment Programme (UNEP) Inquiry has launched a stream of research that will explore the implications of current and possible future evolutions in fintech on the alignment of the financial system with sustainable development outcomes, and to set out options for improving these outcomes for policymakers, market actors, philanthropic foundations and civil society.

Fintech and the land use sector: Fintech innovation is emerging across all key functions of the financial system. These include:

- payments: such as cashless technology and payment rails
- deposits and lending: such as peer-to-peer exchanges and value chain finance
- capital raising: such as community and crowdfunding
- insurance: such as high-tech insurance and risk disaggregation
- investment management: such as automated advisory and outsourcing
- market provisioning: such as market platforms and regulatory technology (regtech).

Many of them are potentially applicable to the land use sector, while also addressing the dual challenges of high transaction costs and information asymmetries that characterize land use finance. Practical examples of fintech applications in the land use sector might include the following, which lie along a continuum from the well researched to the embryonic:

- smallholder finance credit risk scoring bureaus
- asset or commodity tracking enabled trade finance
- smallholder identity and land rights registry
- crop insurance smart contracts
- pay for performance smallholder farmer extension services.

Although there are documented cases of positive links in the broader sustainable development arena, notably in the field of financial inclusion and mobile payments platforms, a positive link should not be presumed for these applications. It should rather be an assumption that there are a range of possible positive and negative outcomes, which can potentially be enhanced or mitigated respectively through policy measures and other approaches. This session at the Global Landscapes Forum: The Investment Case will therefore explore a number of related questions:

- What are the possible positive and negative links between fintech and the land use sector?
- What are the current innovations from a range of geographies?
- What are the barriers and enablers to scale-up?
- What effect would this disruption have on the current financial system?
- How could the links between fintech and the land use sector be shaped through market-based, collective or state-led measures?

About the UNEP Inquiry: The UNEP Inquiry into the Design of a Sustainable Financial System completed its initial phase of work in October 2015, marked by the launch of its global report, The Financial System We Need, at the IMF/World Bank Annual Meetings in Lima, Peru. The findings, and underlying approach to identify and catalyze country-level innovations, have proved effective in raising the profile and establishing the potential for aligning financial and capital markets with sustainable development outcomes, notably environmental impacts.

The Inquiry`s mandate has been extended to a second phase, in large part because of the very positive response to its findings, its impacts to date, growing calls to engage and support further developments, and in particular a decision by the Chinese government to initiate a green finance work stream under its G20 Presidency in 2016, with UNEP as the secretariat.

A second phase of the UNEP Inquiry has been designed. One element of this phase will be to advance several strategic research initiatives that aim to extend the scope and reach of the Inquiry's work and the topic more broadly. One of these initiatives will focus on the impact of fintech on sustainable development outcomes.

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