

Operationalizing Climate Adaptation at the US International Development Finance Corporation: The Case for an Agriculture-Led Agenda in Low-Income Countries

Clemence Landers, Jocilyn Estes, Scott Morris

Abstract

The US International Development Finance Corporation (DFC) could be well placed to lead among development finance institutions (DFIs) on agriculture adaptation to climate change. With its mandate to support private investment in developing country markets, overcoming barriers to investment in agricultural adaptation—where agricultural growth is an estimated two to four times more effective at reducing poverty than growth originating from other sectors—is exactly the type of activity DFC is intended to pursue. Yet, DFC is paradoxically prone to the same investment incentives and disincentives as private investors with an investment portfolio that tends to favor lower risk, higher deal size (and lower overhead) transactions. So, while global estimates for adaptation investments financing needs total close to \$140-\$300 billion by 2030, a fraction of the global mitigation needs measured in the trillions of dollars, the barriers to project level investment in agriculture adaptation and resilience raises the risk that DFC will continue to favor larger and lower risk mitigation investments in more established markets. This paper reviews DFC's agriculture portfolio, and based on this review, proposes elements of an agriculture strategy that can overcome barriers to adaptation and resilience investments in the most climate vulnerable markets.

Center for Global
Development
2055 L Street NW
Fifth Floor
Washington DC 20036
202-416-4000
www.cgdev.org

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Clemence Landers, Jocilyn Estes, Scott Morris
Center for Global Development

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Center for Global Development
2055 L Street NW
Washington, DC 20036

202.416.4000
(f) 202.416.4050

www.cgdev.org

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Contents

Introduction	1
DFC: State of play.....	2
Dive into DFC's agriculture portfolio.....	2
Analysis	7
Recommendations.....	8
Annex. Data methodology.....	9

Introduction

The US International Development Finance Corporation (DFC) recently joined other G7 development finance institutions in [committing](#) to an investment program aimed at climate adaptation and resilience. This is a welcome commitment as part of DFC's [broader goals](#) on climate finance. When it comes to the agency's climate agenda, there is risk that mitigation projects—which tend to favor larger emitters in relatively wealthier developing country markets—could overshadow financing to support adaptation and resilience in the poorest economies.

Yet, there is a pressing need to make agriculture more climate resilient as a key driver of economic progress in the most vulnerable countries. Agriculture adaptation—defined as changes in agricultural processes and practices to reduce vulnerabilities to actual or expected impacts of climate change—also has far-reaching benefits for [food security](#) and environmental sustainability. While the [price tag](#) for adaptation activities is generally modest relative to the costs of deploying clean energy technologies at scale (at least in the short-term), these adaptation investments, particularly in agriculture, face considerable hurdles for private investors [with some evidence](#) to suggest these projects receive scant private sector interest. [Information is limited](#) on how and where exactly private entities spend on adaptation. But countries that are both [dependent on agriculture](#) and [most vulnerable](#) to climate change can also be characterized by relatively small markets, weaker governance, and [more fragility](#) and [potential for conflict](#), compared with countries that [are targeted](#) for mitigation investments like solar or wind farms.

From an investment perspective, financing agriculture adaptation means more effort identifying and cultivating viable investments, smaller deal sizes, and the need for greater risk tolerance. And while mitigation projects, especially in the energy sector have demonstrated financial returns for private investors, adaptation investments [have not attracted](#) considerable private investment. For this reason, most agriculture adaptation programs are on the public sector side. Global adaptation investment from public and private sources [increased](#) from about \$23 billion per year in 2015–2016, to \$30 billion per year in 2017–2018, of which about two-thirds went to developing countries. Only about US\$500 million (1.6 percent) of adaptation finance came from private sources.

With its mandate to support private investment in developing country markets, overcoming barriers to investment in agricultural adaptation—where agricultural growth is an [estimated](#) two to four times more effective at reducing poverty than growth originating from other sectors—is exactly the type of activity DFC is intended to pursue. Yet, in many respects, it is prone to the same investment incentives and disincentives as purely private investors are, with an investment portfolio that tends to favor lower risk, higher deal size (and lower overhead) transactions. So, while global estimates for adaptation investments financing needs [total close](#) to \$140-\$300 billion by 2030, a fraction of the global mitigation needs measured in the trillions of dollar, the barriers to project level investment in agriculture adaptation and resilience raises the risk that DFC will continue to favor larger and lower risk mitigation investments in more established markets.

Progress on both fronts is needed, but absent a deliberate and binding strategy, agriculture adaptation will likely be neglected. DFC alone is unlikely to fundamentally change this picture, but the agency's commitment alongside other G7 DFIs marks a step in the right

direction. In order to follow through on the G7 commitment, DFC will need to evolve its approach to agriculture investments, starting with a clear plan to address the disincentives—namely its own internal risk appetite—to invest where its financing could do the most good. The reality of these disincentives is evident in DFC’s track record to date, where agriculture investments tend to be spread thinly across a wide array of activities with no clear unifying strategy or rationale and no obvious prioritization of reaching the most climate vulnerable. To date, most DFI agriculture strategies place primary emphasis on food security and nutrition across the value chain (See [IFC](#) and [CDC Group](#) strategies, for example). And while institutions tend to highlight support for sustainable agriculture, few explicitly outline specific adaptation goals for investments in the sector.

This note reviews DFC’s agriculture portfolio, and based on this review, proposes elements of an agriculture strategy that can overcome barriers to adaptation and resilience investments in the most climate vulnerable markets. With a binding strategy, DFC could be well placed to lead on agriculture adaptation among DFIs.

DFC: State of play

Agriculture and food security is one of the six priority sectors featured in DFC’s “[Roadmap for Impact](#),” the institution’s guiding development strategy document for 2020-2025. Over the five-year period, DFC aims to provide \$500 million in financing for at least 50 projects, 75 percent of which DFC intends to direct to low-income countries (LICs), lower-middle-income countries (LMICs) and/or fragile states. Given that DFC’s overall annual lending currently hovers around \$5 billion, DFC’s agriculture financing ambitions are therefore modest at around two percent of DFC’s annual investments.

But DFC’s limited aspirations for its agriculture financing footprint in volume terms contrast with the extensive scope of its focus areas. The program laid out in DFC’s Roadmap for Impact spans a wide gamut including supply chains and food market systems; access to finance; sustainable natural resource management; and innovative agriculture and supply chain technologies.

Still, the agriculture section of DFC’s strategy document does not currently mention climate change—although we understand DFC leadership is updating the broader strategy to reflect climate change as a core area focus—or build an explicit case for investing agriculture adaptation programs. At the same time, references to investing in sustainable agriculture practices, risk mitigation, land preservation and the adoption of new farming techniques do leave the door open to an agriculture portfolio with a focus on adaptation.

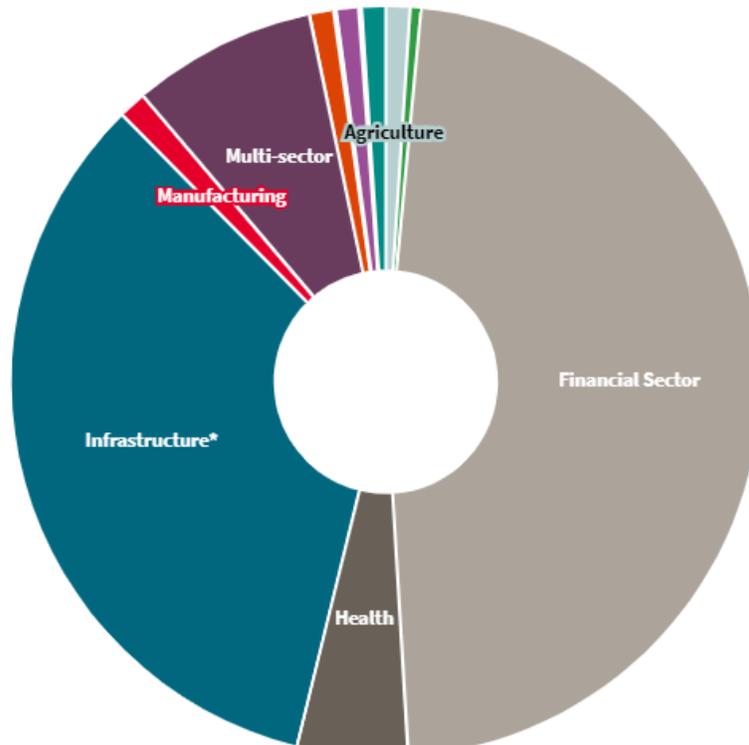
Dive into DFC’s agriculture portfolio

Agriculture investments have historically constituted a small portion of DFC’s annual commitments (and formerly OPIC’s commitments)—just over 1 percent based on [ForeignAssistance.gov](#) (figure 1) and closer to 5 percent based on our calculations (details below). And while agriculture adaptation has only recently been a stated DFC priority, we find that close to a quarter of DFC/OPIC’s agriculture projects contained references to “sustainable farming practices,” “energy efficiency,” or “renewable energy” as a primary or secondary objective. While finance for agriculture adaptation can be [difficult to define](#), from this, we infer that DFC is likely providing around \$20-\$30 million per year in agriculture

adaptation finance. Interestingly, these objectives tended to predominate in loan portfolio guarantees projects (but the exact scale of adaptation-specific finance is unclear, as many of these guarantees span multiple sectors). For example, a [loan portfolio guarantee](#) to AlphaSource Climate Fund supported lending to sustainable landscape activities across forests and agriculture and a [loan portfolio guarantee](#) at the African Banking Corporation in Kenya supported agriculture finance alongside renewable energy and water resource development.

Figure 1. DFC commitments by sector (2015-2020)

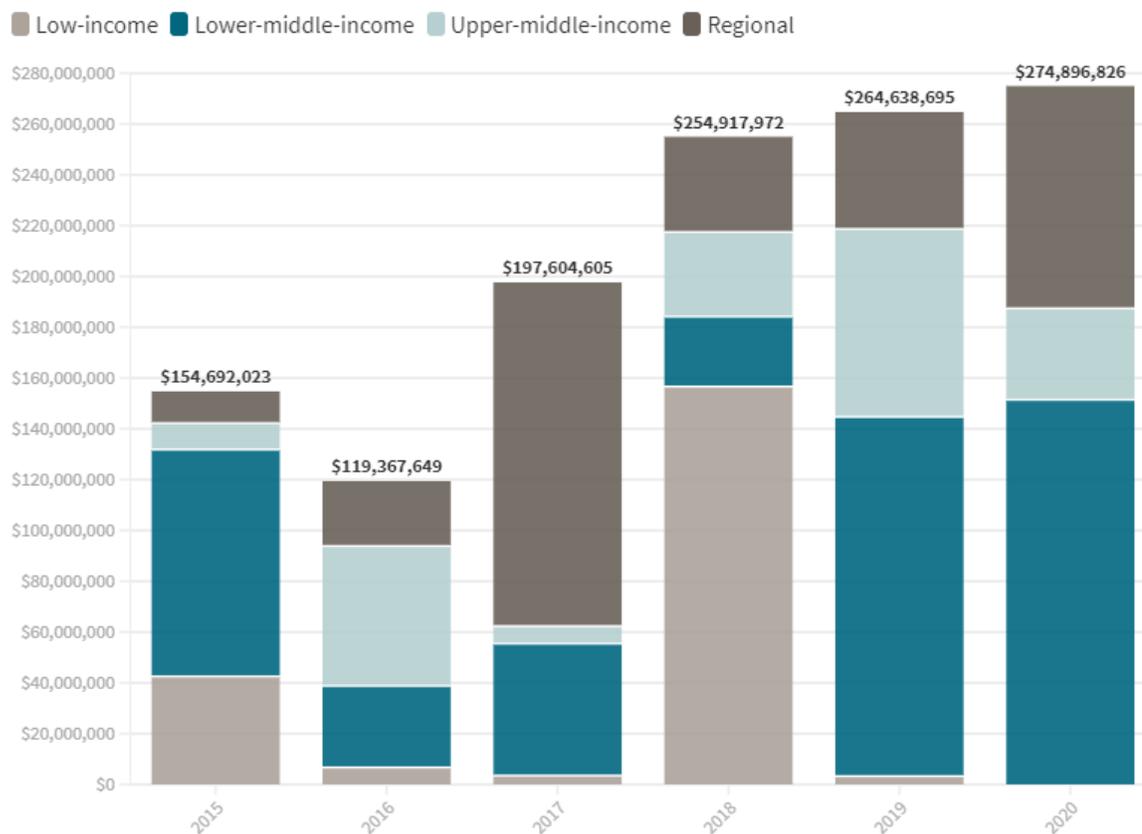
ForeignAssistance.gov Sector: Agriculture Education and Social Services
 Financial Sector Health Infrastructure* Manufacturing Multi-sector
 Natural Resources and Biodiversity Nutrition Policies, Regulations, and Systems
 Private Sector Competitiveness Trade and Investment Water Supply and Sanitation



*Infrastructure spending includes renewable and non-renewable energy investments, utilities, transportation, and natural resources extraction projects.

DFC's annual agriculture investments have nearly doubled from 2015 to 2020 from almost \$155 million in 2015 to \$275 million in 2020 (figure 2).¹ Over half of the agency's agriculture or food security projects from 2015-2020 were in LICs, or LMICs (primarily in the sub-Saharan African region and India). The average size of DFC's agriculture investments (\$10 million) is small relative to the agency's average project size (\$30 million).

Figure 2. DFC agriculture and food commitments by country income (2015-2020)



Agriculture commitments are across multiple areas of focus (table 1). Most DFC agriculture projects financed general agriculture development (which includes integrated projects and farm development). This is closely followed by multi-sector financial intermediary investments (e.g. financing to funds or other financing institutions for agricultural on-lending or other services, but also support for sector specific micro credit, savings, and credit co-operatives). Other areas that received financing include agricultural

¹ Our numbers likely do not align with DFC's count of agriculture investments since not all DFC financial services projects include detailed public descriptions of sectors supported by agency financing. For example, a loan to a bank to onlend to smallholder farmers could be accounted for internally as a financial services investment not an agriculture project. Likewise, multi-sector DFC investment projects through financial intermediaries do not generally disaggregate the volume of financing specifically dedicated to agriculture which could account for differences between our estimates and DFC's numbers.

inputs, water resources, and production do not reflect a clear direction of travel or strategy for impact.

Table 1. DFC/OPIC agriculture and food commitments by DAC purpose (2015-2020)

Purpose	Total Value (\$US million)	Percent of Portfolio	Average Commitment (\$US million)
Agricultural development	425.5	34%	7.3
Agricultural inputs	51.5	4%	5.7
Agricultural policy and administrative management	40.6	3%	10.1
Agricultural water resources	20	2%	20
Agro-industries	30.6	2%	10.2
Fishery development	11	1%	11
Food crop production	76.2	6%	9.5
Food production	19.5	2%	19.5
Food security policy and administrative management	101.8	8%	20.4
Formal sector financial intermediaries	326	26%	17.2
Informal/semi-formal financial intermediaries	72	6%	14.4
Storage	9.8	1%	9.8
Trade facilitation	65.1	5%	10.8
Multisector/other	16.5	1%	5.5

Over 70 percent of DFC’s spending in agriculture is channeled through financial intermediaries. Beyond the primary purpose classification listed in the table above, many projects (particularly in the agricultural development category) were structured not as direct investments. As is the case across DFC’s portfolio broadly, investment funds and banks were common destinations for DFC resources. Investments made through intermediaries focused on support for SMEs, MFIs, and the agriculture value chain.

Around 40 percent of agricultural commitments were in the form of loans, followed by 38 percent in guarantees or loan portfolio guarantees, and political risk insurance at around 20 percent (figure 3). So far, equity comprised around 2 percent of spending, but several notable recent equity approvals are related to the agriculture or food security sector (table 2).

Figure 3. DFC/OPIC agriculture commitments by finance type (2015-2020)

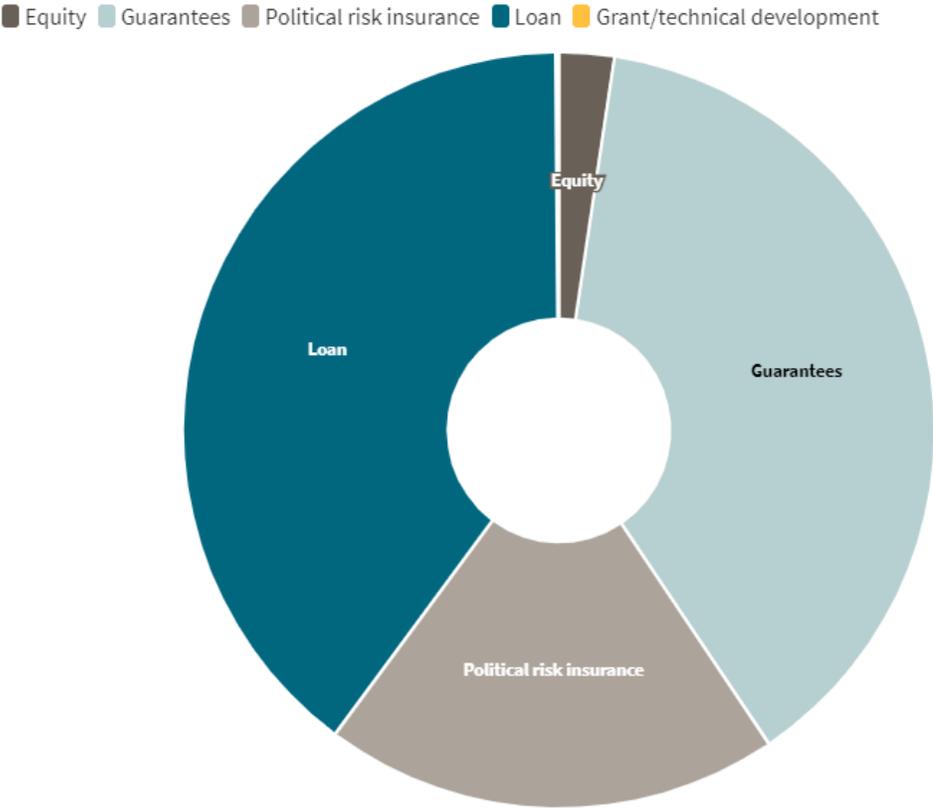


Table 2. Recent DFC equity investments in agriculture or food security

Country/Region	Project description	Amount (USD million)	Income	Sector
Africa Regional	Support for a multi-sector private equity fund focused on investing in underdeveloped medium-sized businesses. Cepheus targets medium-sized businesses with strong growth potential in sectors such as light manufacturing, food processing and sales, education, and healthcare.	15	Regional	Multi-sector fund
India	Freshtohome is a Bangalore, India-based e-commerce company that sells fresh fish, chicken and other meats, and vegetables across major metropolitan areas in India.	20	Lower middle-income	Manufacturing/Retail
Kenya	A direct equity investment in the Series C round of Copia, a leading mobile commerce company that delivers essential goods to low- and middle-income consumers in Kenya with near term plans to expand into Rwanda and Uganda.	5	Lower middle-income	Manufacturing/Retail

Analysis

Despite designating agriculture and food security as a priority sector and touting development impact in this area, DFC’s sparse portfolio indicates a need for a more sharply focused approach. The hurdles bringing development finance projects to close in the agriculture sector mirrors the challenges faced by DFIs in directing investment in LICs: smaller project sizes with greater uncertainty and market volatility. However, as is the case in lower-income contexts, the potential for development impact presents a major opportunity for investors interested in a social return such as DFC. Expanding DFC’s focus on agriculture is clearly aligned with the agency’s development mandate, where agriculture comprises up to a quarter of GDP in some developing countries and [the majority](#) of the world’s adult working poor are estimated to be dependent on agriculture for a living. Indeed, DFC’s agriculture portfolio is already concentrated in LICs and LMICs—smaller markets where the agency’s projects could move the needle as [we’ve argued before](#).

But a major challenge for DFC will likely be on the project origination side: with a limited in-country staff footprint, DFC is at a disadvantage relative to many other DFIs which tend to have a more decentralized model (the majority of IFC staff are in country offices, for example). Investing in agriculture adaptation will require a proactive approach to project origination and building partnerships with DFIs on the ground. DFC could also bring more flexible approaches to financing to bear. Debt financing continues to dominate DFI investments in agriculture generally, whereas there would be considerable benefit for low-income economies from greater use of equity investments, and considerable potential to

attract private investment more broadly through blended finance, credit enhancement, and other targeted risk reduction and revenue boosting measures.

Recommendations

- **Increase staff and resources for agriculture adaptation projects.** Given the greater resource intensity of smaller deals DFC should prioritize growing budgetary resources devoted to agriculture adaptation. More resources could help DFC expand its in-country/regional presence and agriculture adaptation expert staff. Greater field presence will bring DFC closer to its potential deals and build a network of regional partnerships with farmers, enterprises, and local investors. This would help the institution proactively identify, originate, and bring new projects to bankability. It will also enable DFC to better supervise and monitor projects in risky markets that often require a more hands-on approach. Greater budgetary resources allocated for DFC’s agriculture portfolio would also help cover the higher subsidy costs associated with smaller and higher-risk projects. This should also entail evolving DFC’s credit risk policies to allow for greater tolerance for high-risk projects.
- **Update DFC’s Development Strategy to reflect agriculture adaptation as a core pillar of its agriculture investment strategy.** This could also include setting a higher target for agriculture investment for DFC (with a specific focus on LICs and LMICs) and committing that a majority of DFC agriculture investments will have a climate adaptation component. DFC has made [bold climate commitments](#) around greenhouse gas (GHG) emissions – including achieving a net zero target by 2040 – and pledging that a third of its investment, or roughly \$2 billion a year would go to climate finance. Setting a specific adaptation target—say \$500 million a year (or a more than tenfold increase from our estimated current levels) could be a useful starting point. In addition, DFC should establish criteria for classifying investment as “agriculture adaptation” and tag these projects at entry to better facilitate tracking them throughout the portfolio.
- **Set up a blended finance facility that targets small and medium-sized enterprises that demonstrate environmentally sustainable practices in the agriculture sector.** DFC could work with another DFI, the MCC, USAID and/or a venture capital firm to set up a \$500 million blended finance facility that would finance agricultural firms, financial institutions, and early-stage investments that are committed to sustainable agricultural practices. This could help channel private finance to adaptation projects whose returns are low and need patient capital to succeed. This facility could also include a global crop insurance program to help local companies or international ventures expand the availability of financial risk management products that mitigate climate related crop losses, while incentivizing risk reduction through better adaptation practices.
- **Expand the availability of credit lines with local banks and cooperatives for adaptation technologies.** DFC should grow its financing to local banks to on-lend to smallholder farmers and small businesses to help them acquire adaptation technologies such as drought resistant seeds, switch to crop varieties that are resistant to heat or finance and develop more efficient irrigation practices.

Annex. Data methodology

We identified a total of 136 agriculture and food security-related projects financed by OPIC/DFC between 2015 and 2020 totaling \$632 million. We collected this information by triangulating data obtained DFC's [global project map webpage](#) (which only returned 25 agriculture projects), DFC's [downloadable excel spreadsheet](#), and [ForeignAssistance.gov](#).

While information and project descriptions on each investment are still limited, we filtered for projects from fiscal years 2015-2020 identified as agriculture-related using DAC purpose codes and US foreign assistance sector names. Where those categories were directly identifiable as agricultural investments, for example, by being tagged with the DAC purpose code corresponding to “Agro-industries”, the relevant investments were included in the data set. Some other DAC purpose codes or US foreign assistance sectors were less clear cut and required reading project descriptions and other information to identify whether an OPIC/DFC project should be included. Investments tagged with the “Storage” DAC purpose code or the US foreign assistance sector “Multi-sector” could be relevant to understanding DFC’s full portfolio in the agricultural supply chain, for example. One such project is a loan to a manufacturer of flour-based products sourcing wheat inputs from local mandis and local farmers in India.

We looked at investments in the financial services sector specifically targeted at smallholder farmers, agribusiness SMEs, producers of agricultural inputs, or other agricultural supply chain actors. This includes projects like an OPIC [loan to an agriculture fund](#) focused on providing sustainability financing to smallholder farmers in Latin America or [financing](#) for an intermediary expected to provide agribusiness SMEs with access to capital and various types of equipment. Using DFC’s [Global Project Map](#) and [downloadable Excel spreadsheet](#), we then compared this base list of projects against other recorded agricultural investments. We found 70 additional projects not recorded on [ForeignAssistance.gov](#) for a total of 136 agriculture and food related projects from 2015 to 2019. For agriculture projects not recorded in [ForeignAssistance.gov](#), we assigned DAC Purpose Codes and other information based on publicly available project summaries.

Our numbers likely do not align with DFC’s count of agriculture investments since not all of DFC’s financial services projects include detailed descriptions of sectors supported by DFC financing. Likewise, multi-sector investment projects through financial intermediaries do not generally disaggregate the volume of financing that specifically dedicated to agriculture.