

Approach Paper

Toward Productive, Inclusive, and Sustainable Farms and Agribusiness Firms: An Evaluation of the World Bank Group's Support for Development of Agrifood Economies (2010–20)

June 28, 2021

1. Background and Context

1.1 Despite progress in recent decades, hunger and rural poverty remain chronic development challenges. In 2018, 689 million people were living below the international poverty line (World Bank 2020c). In the same year, about 820 million people were chronically food insecure, and up to 135 million people suffered from acute hunger (FAO 2019).¹ About 80 percent of poor people and the chronically food insecure live in rural areas, and 62 percent of them work in agriculture (World Bank 2020c). Lifting these people out of extreme poverty will require average income gains of at least 60 percent in Sub-Saharan Africa and 30 percent in Asia (World Bank 2018). Hence, to end hunger and poverty, significant and broad-based increases in the income from agriculture and related nonfarm activities are required, especially in Africa and South Asia (Christiaensen and Martin 2018).²

1.2 Sustainable development of the agricultural sector and the associated agrifood industry is key to ending hunger and poverty and meeting other global goals, such as those related to climate change. Agriculture and the broader agrifood industry are vital for producing more and better food to end hunger (Sustainable Development Goal 2) and poverty (Sustainable Development Goal 1) and to contribute to other development goals (World Bank 2020b). The agrifood sectors are also key employers in many countries, including farm and nonfarm jobs created in processing, distribution, retail, and food services. In addition, these sectors can help protect vital ecosystems and help stem greenhouse gas emissions to mitigate climate change (Morris, Sebastian, and Perego, 2020; World Bank 2010). However, progress in realizing these potentials is constrained by multiple factors, including market and policy failures that undermine sustainability. The convergence of climate change, the coronavirus (COVID-19) pandemic crisis, and social conflict and violence further exacerbates these challenges and threatens to reverse the vital gains made in reducing hunger and poverty (World Bank 2020c).³

Development of Agrifood Systems

1.3 Fostering broad-based agricultural development requires transforming agrifood systems because of their critical role in economic growth, employment, and sustainable agricultural development. A national agrifood system (AFS) encompasses the

coordinated value-adding activities involved in production, aggregation, processing, and distribution of food and related products as well as the market, policy, and institutional arrangements that govern the social, economic, and environmental outcomes of these activities (FAO 2018). At each segment of an AFS, a diverse set of actors are engaged and interlinked (appendix D). Upstream, farmers produce the raw products, and suppliers provide agricultural inputs and services. Midstream, aggregators and processors add value to raw products. Downstream, distributors, retailers, and food services bring the product to the consumer. The AFS links primary production on the farm with the agrifood industry and services through agribusiness value chains. The AFS accounts for more than 30 percent of the gross domestic product (GDP) and 70 percent of all jobs in low-income countries (LICs), and more than 15 percent of the GDP and about 30 percent of all jobs in middle-income countries (MICs; World Bank 2017a). Transforming the AFS is, therefore, one of the most pressing challenges for broad-based and sustainable agricultural development.

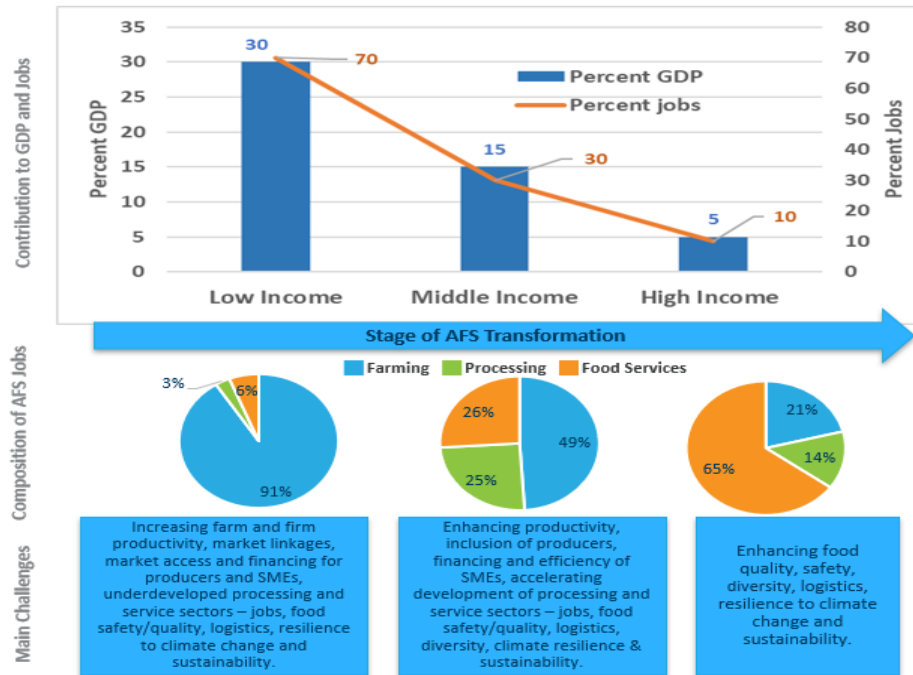
1.4 The development community has identified an integrated and systematic approach to developing and transforming the AFS. The process of agrifood system development involves changes at multiple levels, including primary production, agrifood processing, and services. First, it includes transforming primary production by boosting the productivity of smallholder farmers and agribusiness firms through greater use of modern inputs and technologies. Second, the process includes agricultural modernization and a shift from subsistence to market-oriented agriculture enabled through market linkages and increases in agricultural production by smallholder farmers.⁴ Third, it includes diversification and an increasing shift toward high-value products and value chain development (to reduce volatility in prices and income). Fourth, the process includes developing the value-adding aspects of the AFS (food manufacturing and food services) that create nonfarm jobs and accelerate rural economic growth. Fifth, it entails increasing the sustainability of agrifood systems, including by building resilience against climatic shocks (ACET 2017; de Janvry and Sadoulet 2019; World Bank 2007).⁵

1.5 The need to develop the AFS is most urgent in countries that are in the early stages of advancing their agricultural-based economies. For countries at early stages of development, productivity growth in agriculture is the main driver of economic growth (Christiaensen and Martin 2018; World Bank 2007). Productivity growth enables shifting labor off the farm (but within the AFS) and decreasing rural poverty (Barrett et al. 2017). Of particular interest are slowly transforming or lagging countries at the initial stages of “getting agriculture moving” away from subsistence agriculture, countries unable to move labor out of primary production, and countries unable to use the agrifood sectors as contributors to economic growth (Laborde et al. 2019).⁶

Challenges for Development of Agrifood Systems

1.6 The global AFS is essential, but the future of agrifood economies is compromised because of multiple constraints that hold back its development. There are many ways in which the AFS is dysfunctional, and the main challenges for transformation differ depending on the stage of economic development (figure 1.1). While the share contribution of the AFS to GDP and jobs declines with economic growth, the size of the overall agrifood economy and number of jobs continue to expand, although this means less employment in primary production and more employment in agrifood processing and services. Progressive agrifood system development is key to unlock these opportunities. However, the productivity of smallholder farms and agribusiness firms remains low in many developing countries. The yields of major staple crops in LICs are only half those in MICs, and this gap has grown over time (World Bank Group 2015). This low productivity is related to capacity constraints and lack of skills at farm and firm level, as well as the underdevelopment of input, financial, and output markets and value chains in LICs and the limited inclusion of farmers and agribusiness firms in these markets (Fuglie et al. 2020). Fewer than 5 percent of small farmers are in contract farming arrangements with assured buyers, and the food processing and related post-farm value-adding activities remain underdeveloped in many countries (Minot and Sawyer 2016; Reardon et al. 2019).⁷ In addition, the agrifood nonfarm sector is often unable to provide employment and income sources for the growing number of unemployed youth and landless poor people. Only about 9 percent of the jobs in LICs are in the nonfarm segment of the AFS compared with about 51 percent in MICs (World Bank 2017a).

Figure 1.1. The Agrifood System at Different Stages of Development



Source: Independent Evaluation Group, based on World Bank 2017a.

Note: AFS = agrifood system; GDP = gross domestic product; SMEs = small and medium enterprises.

1.7 The private sector plays a vital role in achieving agrifood system development. Public sector finance is not enough to undertake the necessary investments to develop the AFS. The international development community estimates that the annual investment gap in agribusiness to be addressed by the private sector amounts to >\$200 billion (see IFC Agribusiness Deep Dive [IFC 2017]).⁸ Engaging the private sector as a financier, operator, service provider, or innovator in the pursuit of agrifood system development requires, however, an enabling business environment.

1.8 The global AFS also contributes to climate change and environmental degradation and jeopardizes the achievement of the twin goals in a sustainable manner. Because agricultural land use accounts for 24 percent of global emissions of greenhouse gases, the AFS is one of the largest contributors to global warming (FAO 2016; World Bank 2010). Agriculture is also the main sector that drives human-induced land degradation (Shukla et al., forthcoming). Expanding the agricultural frontier, along with unsustainable agricultural practices exacerbated by distortive policies and market failures, significantly contributes to deforestation, soil erosion, desertification, water scarcity, and biodiversity loss. This adds urgency to the task of reimagining the AFS to deliver better development outcomes without imposing high social and environmental costs (Morris, Sebastian, and Perego 2020).

1.9 Global crises—such as climate change, environmental degradation, and health pandemics—also pose many risks and uncertainties for developing the AFS. Weather- and climate-related shocks introduce uninsured risks and income volatility that undermine private investments in the AFS. In addition, low food quality and inadequate safety procedures pose a direct health threat to both producers and consumers.⁹ More recently, COVID-19 has illustrated the global consequences of diseases that also affect food production and supply chains (FAO 2020).

2. World Bank Approaches and Interventions in the AFS

2.1 The World Bank Group has been a major supporter of previous efforts to develop agriculture and the broader agrifood system economies. Following the 2008 World Development Report on Agriculture, the WBG developed two successive *Agriculture Action Plans* (FY10-12 and FY13-15). In these two *Agriculture Action Plans*, the WBG identified five priority areas for development of agriculture and related sectors: (i) raising agricultural productivity; (ii) linking farmers to markets; (iii) facilitating rural nonfarm income; (iv) reducing risk, vulnerability, and gender inequality; and (v) enhancing environmental sustainability.¹⁰ The Bank Group as a whole committed to an annual support of \$8–10 billion for fiscal years 2013–15 (FY13–15) and to doubling International Finance Corporation (IFC) investments in Africa by FY15 (World Bank Group 2013). In 2015, the World Bank prepared an *Agenda for the Global Food System* as a call for action to provide support for the Sustainable Development Goals of ending hunger and poverty (World Bank Group 2015). The agenda identified three key actions: (i) ensuring a more climate-smart agriculture, (ii) improving food security and nutritional outcomes, and (iii) strengthening value chains and improving market access. IFC developed an agribusiness strategy that focuses on (i) enhancing food security, (ii) enhancing inclusive growth and shared prosperity, and (iii) making sustainability a business driver (IFC 2017). In the later years, the *World Bank Group Climate Change Action Plan 2016–2020* and the *World Bank Group Gender Strategy (FY16–23)*, covered important strategic issues for more resilient, inclusive and sustainable agricultural development (World Bank 2016a, 2016b). The World Bank, IFC, and Multilateral Investment Guarantee Agency (MIGA) have joined forces and established the Agribusiness Sector Working Group to serve as a mechanism to drive operational connections and share knowledge across the Bank Group.

2.2 Based on the 2015 *Agenda for the Global Food System*, the Bank Group has set out a new, comprehensive vision for development of sustainable AFS that deliver healthy people, a healthy planet, and healthy economies. A new trust fund (FoodSystems2030) has been set up to build the foundations for *sustainable food systems* as a cornerstone to achieve the vision for “healthy people, a healthy planet, and healthy economies” (World

Bank 2020b, 1).¹¹ The trust fund aims to steer and leverage the impacts of lending to achieve this vision.

2.3 To implement these strategies and action plans for AFS development, the World Bank Group intervenes using different instruments. The World Bank Group uses various types of interventions to support broad-based AFS development, including technical assistance and advisory, project, and policy lending, investments, and guarantees. IFC and MIGA typically support the value addition of medium or large and commercially oriented farms and agribusiness firms in the upstream and midstream segment of the AFS through direct investments and advisory services (IFC) and political risk guarantees (MIGA).¹² In addition, IFC supports small- to medium-size agribusiness enterprises (agribusiness SMEs) and smallholder farmers through financial intermediation. This is typically done by providing lines of credit to domestic financial institutions who then on-lend to smallholder farmers or agribusiness SMEs. In addition to funding, IFC also provides advice to financial institutions on (i) developing financial products and services that are more suitable for their agribusiness clientele and (ii) developing the required capacity to manage larger agribusiness portfolios. IFC also provides finance and advisory services to supply chain managers (that is, commodity traders, primary processors and lead firms) to reach smallholder farm producers and agribusiness SME suppliers. The World Bank and IFC both support commercial producers in their market access and inclusion to make the AFS more productive, inclusive, and sustainable. The World Bank also supports noncommercially oriented farmers and rural poor people as well as policy reforms, institutional capacity building, and analytical work to create an enabling environment for developing the AFS.

3. Objectives and Audience

3.1 The objective of the evaluation is to assess how well the Bank Group identifies needs, addresses constraints, and achieves results in supporting agrifood system development, defined as the development of more productive, inclusive, and sustainable farms and agribusiness firms. More specifically, the evaluation aims to (i) assess the relevance of the Bank Group in identifying and addressing the key AFS development challenges of raising productivity, improving inclusion, and reducing environmental sustainability threats especially from climate change; (ii) assess the effectiveness of Bank Group support in making the AFS more productive, inclusive, and sustainable; and (iii) identify lessons of experience, success factors, and constraints on effectiveness.

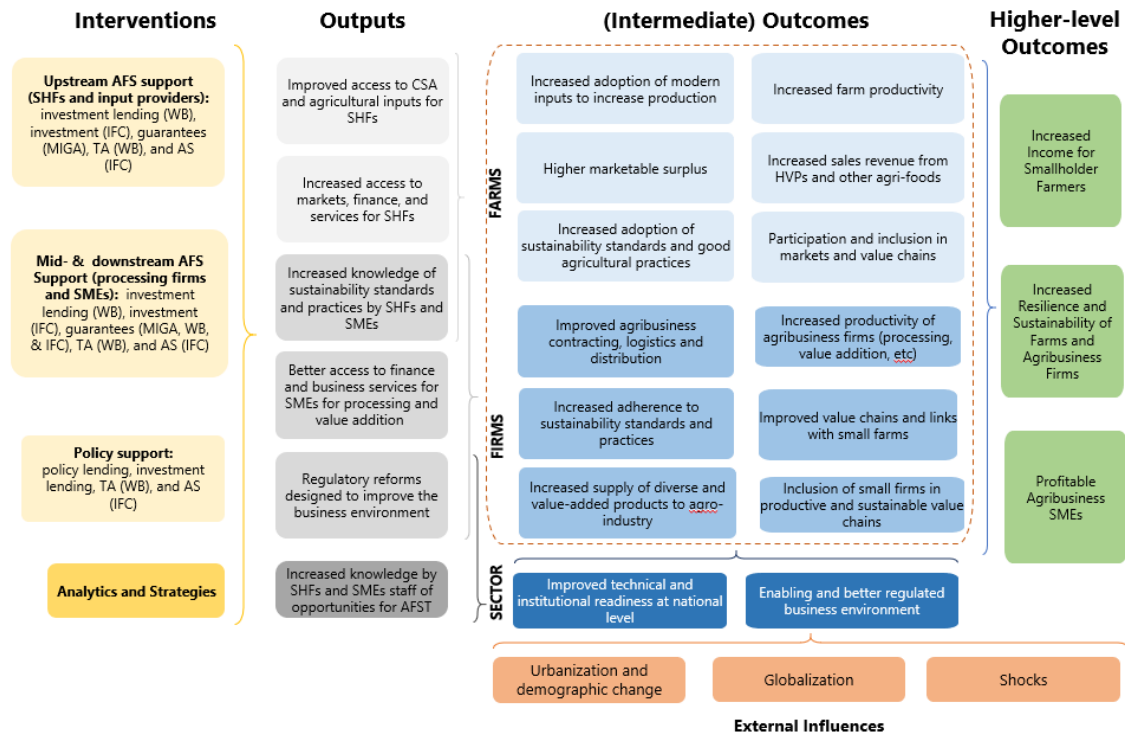
3.2 The evaluation's findings will inform the Bank Group's Board of Executive Directors and management, client countries, and development partners and practitioners. The evaluation will generate evidence and lessons for the Board and

management of the World Bank, IFC, and MIGA about how and in what ways the Bank Group has contributed to developing the AFS in client countries. This evidence will inform effort for ending poverty and hunger by 2030 as articulated in the *Agenda for the Global Food System* and its evolving long-term strategic vision and operations for transforming the AFS for “healthy people, a healthy planet and healthy economies” (World Bank 2020b, 1). It will also inform the implementation of the new Climate Change Action Plan (FY21–25). The key stakeholders in the World Bank are the Agriculture and Food Global Practice, followed by the Water; Environment, Natural Resources, and Blue Economy; and Finance, Competitiveness, and Innovation Global Practices and the Climate Change Global Theme. The main stakeholders in IFC and MIGA are the global directors and sector managers involved in Manufacturing, Agribusiness, and Services (in IFC), in Agribusiness, General Services (in MIGA), and in the Financial Institution Group (FIG). The evaluation is also expected to provide insights in the context of the United Nations Food Systems Summit 2021.¹³

4. A Generic Theory of Change

4.1 A generic theory of change for development is proposed based on consultations with key Bank Group staff and a review of selected literature. Based on the AFS definition (appendix D), the theory of change is structured around the different segments of the AFS (up-, mid-, downstream, or at policy level), the types of beneficiaries (farm, firm, or sector), and the outputs and outcomes the interventions try to achieve (figure 4.1). In characterizing Bank Group interventions and outcomes, this theory of change places an emphasis on smaller actors, that is, smallholder farmers and agrifood-related SMEs, because these entities suffer disproportionately from market and policy failures. The Bank Group intervenes in the different segments of the AFS through three sets of activities to foster transformation toward a more productive, inclusive, and sustainable AFS: (i) up-, mid-, and downstream AFS support: investment lending, investments, guarantees, technical assistance, and advisory services to support productivity, inclusion, and sustainability at the farm and agribusiness firm level, including through financial intermediation;¹⁴ (ii) policy support: policy lending, investment lending, technical assistance, and advisory services to improve policies that affect farms and agribusiness productivity, inclusion, and sustainability; and (iii) analytics and strategies that underpin upstream, downstream, and policy work. The main outputs are increased access to inputs, technologies, finance, standards, and markets for smallholder farmers (lighter gray boxes in figure 4.1) and for agribusiness firms (medium gray boxes). At the national level, the output is the increased knowledge by farms and agribusiness firms to identify opportunities for AFS development.

Figure 4.1. Generic Theory of Change



Source: Independent Evaluation Group.

Note: Outcomes in bold are considered in the evaluation. AFS = agrifood system; AFST = agrifood system transformation; AS = advisory services; CSA = climate-smart agriculture; HVPs = high-value products; IFC = International Finance Corporation; MIGA = Multilateral Investment Guarantee Agency; SHFs = smallholder farmers; SMEs = small and medium enterprises; TA = technical assistance; WB = World Bank.

4.2 The evaluation will focus primarily on selected key outcomes of improved productivity, inclusion, and sustainability at the farm and agribusiness level. As depicted in figure 4.1, the outputs of increased market access and improved agribusiness environment are expected to affect multiple outcomes of producers on the farm, agribusinesses, and the AFS in general. In line with its objectives, the evaluation will focus selectively on certain outcomes at each level. At the farm level, the selected outcomes are increased productivity facilitated by increased adoption of modern inputs and technologies and access to finance and markets; the uptake of sustainability standards and practices; and market participation and inclusion of farmers in value chains. At the agribusiness firm level, the evaluation will look at increased productivity in agricultural production and processing, inclusion of agribusiness firms and farms (including but not limited to SMEs and smallholder farmers) in supply and value chains serving domestic or export markets, inclusion of agribusiness firms and farms in financial markets—enabling their access to finance—and adherence to sustainability standards of IFC- and MIGA-supported firms and farms. At the national or policy level, the outcomes are policy reforms that improve the investment climate and support more productive, inclusive, and sustainable farms and agribusiness firms.

4.3 While AFS development aims to achieve the higher-level objectives of increased income, resilience, sustainability, and profitability, more data and a longer time frame are needed to fully assess achievement of these longer-term outcomes. The higher-level outcomes of AFS development are higher incomes for smallholder farmers, increased resilience and environmental sustainability for farms and agribusiness firms by mitigating the threats and impacts of climate change, and higher profits for agribusiness firms (figure 4.1). However, the evaluation will assess the relevance of investments for enhancing environmental sustainability but will not be able to fully assess effectiveness in the attainment of these higher-level objectives. Data on the incomes and profits of actors supported by the Bank Group at different segments of the value chain are not available to measure achievements of these objectives.¹⁵ Moreover, since the Bank Group's support for climate-smart agriculture interventions is relatively new in the portfolio, the evaluation will look at the uptake of sustainability standards as part of assessing contributions to enhancing environmental sustainability but will not be able to identify and evaluate the achievement of higher-level outcomes from CSA investments and advisory services at the farm or firm level¹⁶ (see the scope section on how environmental sustainability is addressed differently in the relevance and effectiveness analysis).

5. Evaluation Questions and Scope

5.1 This evaluation assesses the relevance and effectiveness of the Bank Group in supporting the development of more productive, inclusive, and sustainable farms and agribusiness firms in developing countries.¹⁷ The main interest is to answer questions about whether Bank Group support to AFS development is relevant (that is, "doing the right things in the right places") and whether this support is effective in facilitating development of the AFS ("doing things right"). The analysis of effectiveness will focus on assessing how support from the Bank Group has contributed to improvements in the selected outcomes at farm and firm level.

Evaluation Questions

5.2 The overarching evaluation questions of relevance and effectiveness will be addressed by answering the following questions:

5.3 EQ1: How relevant is the World Bank Group in its strategy and support for addressing the key challenges to AFS development in client countries?

- a. What are the World Bank Group's strategic approaches for addressing the challenges of raising productivity, improving inclusion, and reducing sustainability threats from climate change?

- b. How does the World Bank Group’s portfolio respond to the needs for addressing the challenges of raising productivity, improving inclusion, and reducing sustainability threats from climate change?

5.4 EQ2: How effective is World Bank Group support in making the AFS more productive, inclusive, and sustainable?

- a. How effective is the World Bank Group in supporting productivity growth and the adoption of sustainability standards by farmers and agribusiness firms?
- b. How effective is World Bank Group support in enhancing the inclusion of smallholder farmers and SME agribusiness firms in markets and value chains?
- c. Based on World Bank Group experiences, what are the lessons for, success factors of, and constraints on delivering development outcomes linked to a productive, inclusive, and sustainable AFS?
- d. How has the coordination between the World Bank, IFC, and MIGA contributed to enhancing the World Bank Group’s support of developing AFS?

Evaluation Scope

5.5 The evaluation scope will focus on the core Bank Group interventions and activities targeted for developing more productive, inclusive, and sustainable AFS. The scope of the evaluation is defined by the selected outcomes (see paragraph 4.2), the type of interventions that aim to achieve these outcomes, and the geographical region of interventions. The primary focus will be on analyzing the relevance and effectiveness of interventions that aim at improving productivity and inclusion (including digital technologies and with inclusion limited to small farms and firms).¹⁸ The secondary focus will be on interventions that enhance environmental sustainability, which refers to (i) identifying and addressing the growing threats from climate change that reduce the sustainability of the AFS (relevance analysis), and (ii) the adoption by farms and agribusiness firms of sustainability and practices that also help address the threats posed by climate change and improve the sustainability of the AFS (effectiveness analysis). The tertiary focus will be on multiobjective projects that, besides the selected productivity and inclusion outcomes, also target benefits related to food security, better nutrition, and food safety (with links to health). The co-benefits that these interventions might generate will be indirectly discussed where evidence is available, but analysis of these additional outcomes related to food security, health, and nutrition is expected to be the focus of future evaluations (World Bank 2020a).

5.6 The evaluation will address sustainability narrowly and differently in the relevance and effectiveness analysis. Sustainability is a broad concept that includes social, economic, and environmental dimensions (FAO 2018). This concept is encapsulated within the Bank Group’s vision for a sustainable food system of “healthy people, a healthy planet and healthy economies” (World Bank 2020b, 1) and in IFC’s definition of sustainability, which includes financial, environmental, and social sustainability.¹⁹ To improve the depth of the analysis, the evaluation will however narrowly focus on the environmental aspects of sustainability, including the sustainability threats from climate change (for example, through climate-smart agriculture). The contributions to sustainability will also be assessed differently in answering the relevance and effectiveness questions. The relevance analysis will assess how and in what ways the Bank Group is addressing the sustainability threats from climate change in its country strategies.²⁰ The effectiveness analysis will assess the early lessons from climate-smart agriculture and related activities by looking at the uptake of sustainability standards and practices as intermediate outcomes by farms and firms, but the analysis will not evaluate-high level outcomes and impacts.²¹

5.7 The evaluation will exclude the outcomes and impacts related to broader environmental sustainability (including climate resilience, adaptation, mitigation, and biodiversity), gender, distributional issues, jobs and youth employment, and nonfarm income sources outside the AFS (for example, tourism, mining). These issues are relevant to AFS development but lie outside the scope of this evaluation and could be addressed in future evaluations.²²

5.8 The evaluation will pay special attention to the challenges of AFS development in LICs and LMICs (lower-middle-income countries). The LICs and LMICs in the Africa, South Asia, and Central America and Caribbean Regions are at the early stages of developing their agrifood sectors and have urgent needs for developing their AFS. These countries together account for more than 60 and 53 percent of the World Bank and IFC commitments,²³ respectively. (See appendix B for details.) Despite this focus, considerable effort will also be made to assess the Bank Group’s support to MICs and countries in more advanced stage of AFS development.²⁴ The evaluation will specifically assess Bank Group support in countries in Regions at more advanced stages of AFS development (for example, Latin America; East Asia and the Pacific; and Europe and Central Asia) to generate lessons, identify success factors, and constraints from approaches proven to be effective in AFS development.

5.9 This evaluation will mainly cover projects, investments, and advisory activities, and guarantees during FY10–20 within the defined scope of the evaluation. The preliminary portfolio for projects, investments, and guarantees for the World Bank, IFC, and MIGA is presented in table 5.1. The preliminary portfolio comprises 607 World Bank

projects, 331 IFC investments, and 21 MIGA guarantees with explicit AFS components. The scope does not include operations that were approved before 2010.²⁵ In addition, there are 495 World Bank advisory services and analytics and 210 IFC advisory services. Depending on availability of information for assessing potential contributions to one or more of the three outcomes, the World Bank’s ASA portfolio will be included in the relevance analysis but not in the effectiveness analysis. The IFC advisory services portfolio will also be subject to the relevance analysis. In addition, IFC advisory services will be covered under the effectiveness analysis, but coverage will depend on the availability of evaluative evidence on the outcomes or impacts of this portfolio to agricultural development or market creation, either as stand-alones or through their effects on IFC investment services.²⁶ In any case, the focus of such a targeted effectiveness analysis of IFC advisory services will be interventions that took place after 2016 when IFC restructured its advisory services and brought them into the industry departments to be more client focused.

Table 5.1. Preliminary Agrifood Systems Portfolio (Approved FY10–20)

Commitment Type	All Projects	Closed	Active	Commitment (US\$, millions)^a
Projects or investments	938	429	509	47,539
World Bank projects	607	291	316	38,012
IFC investments ^b	331	138	193	9,527
Advisory services and analytics	705	567	138	569
World Bank ASA	495	478	17	152
IFC advisory services ^c	210	89	121	417
MIGA guarantees ^d	21	-	-	474
Total	1,643	996	647	48,582

Source: World Bank Business Intelligence Database, World Bank Enterprise Data Catalogue, IFC Management Information System Database, IFC Advisory Services Operations Portal, and MIGA Portal.

Note: ASA = advisory services and analytics; FY = fiscal year; IFC = International Finance Corporation; MIGA = Multilateral Investment Guarantee Agency; — = not available.

a. Agrifood share of project commitments.

b. IFC original commitments.

c. IFC advisory services total funding amount managed by IFC.

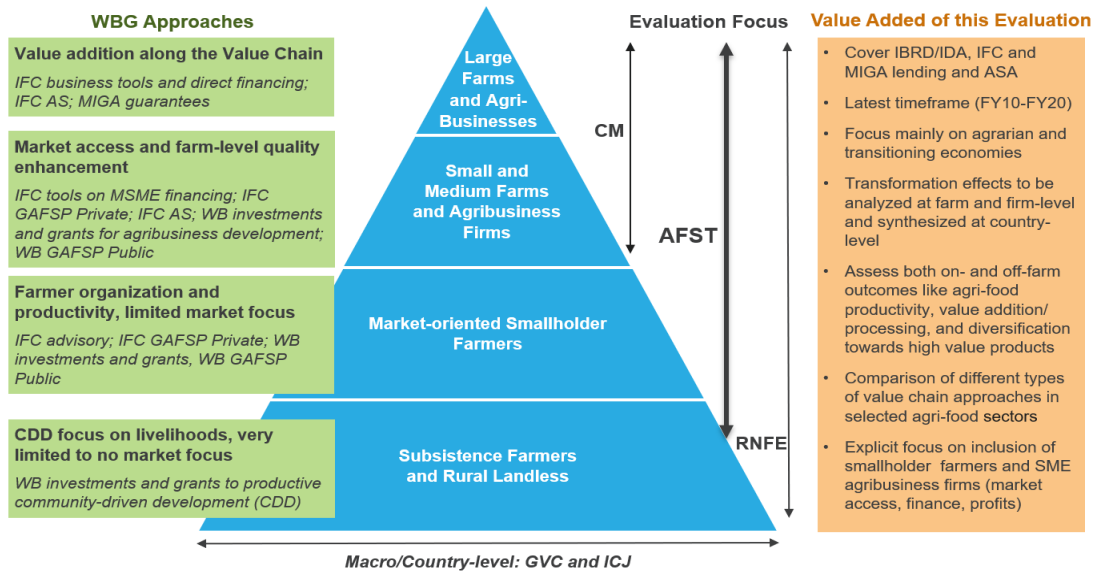
d. MIGA amount is gross exposure.

6. Value Added of the Evaluation

6.1 This evaluation on the World Bank Group’s support for development of agrifood system economies is complementary to the work of the Independent Evaluation Group (IEG) on the broader economic transformation processes in rural areas. IEG has conducted several related evaluations analyzing the Bank Group’s contribution to the broader rural development and transformation of rural areas. Since the AFS is often the main employer in rural areas, several evaluations (for example, rural nonfarm economy report and the creating markets report) have considered changes in the livelihoods of

rural actors directly or indirectly dependent on the AFS. However, the discussed evaluation will focus more on market-oriented smallholder farmers and small and medium enterprises active in the upstream and midstream segment of the AFS. This is complementary to earlier IEG evaluations looking at the dynamics of large farms and agribusinesses (creating markets and inclusive business) and subsistence farmers and landless poor people (rural nonfarm economy) in rural areas (figure 6.1).

Figure 6.1. Value Added of the Agrifood System Development Evaluation



Source: Adapted from IEG Creating Markets Evaluation (2019).

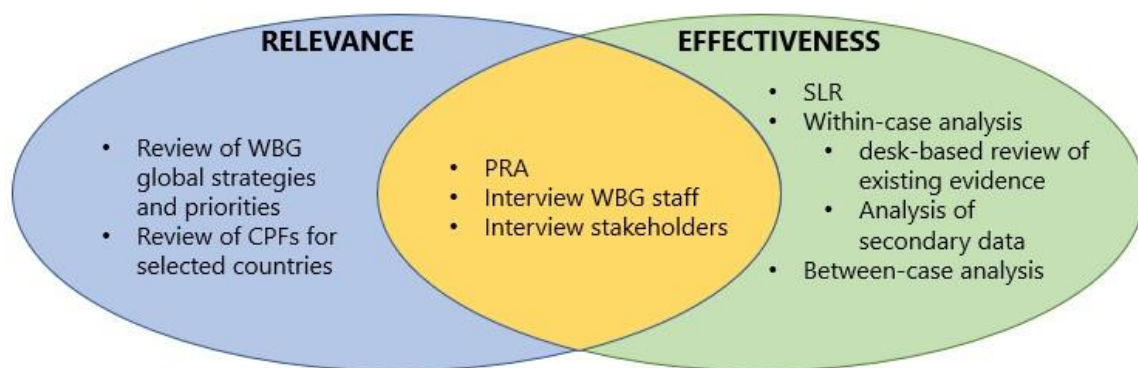
Note: AFST = agrifood system transformation; AS = advisory services; ASA = advisory services and analytics; CM = creating markets; FDI = foreign direct investment; FY = fiscal year; GAFSP = Global Agriculture and Food Security Program; GVC = global value chain; IBRD = International Bank for Reconstruction and Development; ICJ = industrial competitiveness and jobs; IDA = International Development Association; IFC = International Finance Corporation; MIGA = Multilateral Investment Guarantee Agency; MSME = micro, small, medium enterprise; RNFE = rural nonfarm economy; SME = small and medium enterprise; WB = World Bank; WBG = World Bank Group.

6.2 The value added of the AFS development evaluation is threefold. First, it provides the opportunity to look at how the Bank Group has contributed to shaping and transforming the AFS in client countries. Second, the evaluation has an explicit focus on the inclusion of small farms and agribusiness firms in markets and value chains. Third, the evaluation will address issues that have not been covered by previous IEG evaluations, including farm- and firm-level productivity change, value addition, and uptake of sustainability standards. In contrast to previous evaluations (summarized in appendix C), the AFS development evaluation will cover the recent global portfolio across the different instruments employed by the World Bank, IFC, and MIGA, while paying special attention to the LICs and LMICs at early stages of AFS development.

7. Evaluation Design

7.1 To address the relevance and effectiveness questions, mixed methods will generate and triangulate evidence at three levels. The evaluation will generate evidence by using five main methods (figure 7.1): (i) portfolio review and analysis (PRA); (ii) review of World Bank Group priorities and strategies; (iii) structured literature reviews (SLRs); (iv) within-case and cross-case analysis of case studies; and (v) virtual interviews with Bank Group management, staff, and clients. Depending on the evaluation question, the level of analysis will be at the global level for the strategy and portfolio analysis, at the country level for the PRA and country strategy reviews, and at the project level for the case studies. The global and country strategy analysis will inform the relevance analysis (evaluation question 1). The project-level analysis will be used to assess the effectiveness of the Bank Group in achieving selected outcomes (evaluation question 2).

Figure 7.1. Overview of the Main Methodologies



Source: Independent Evaluation Group.

Note: The two types of evaluation questions are highlighted in bold capital letters. The level of analysis is at the global level unless stated otherwise (and underlined). CPF = Country Partnership Framework; PRA = portfolio review and analysis; SLR = structured literature review.

Evaluation Design

7.2 This section elaborates on the level of analysis and methods applied to address the specific evaluation questions. Table 7.1 summarizes the proposed methods and levels of analysis by evaluation question. See appendix A for the evaluation design matrix.

Table 7.1. Proposed Methodological Approach

Evaluation Question	Level of Analysis	Methods
1. How relevant is the World Bank Group in its strategy and support for addressing the key challenges to AFS development in client countries?		
1a. What are the World Bank Group’s strategic approaches for addressing the challenges of raising productivity, improving inclusion, and reducing sustainability threats from climate change?	Corporate or global	<ul style="list-style-type: none"> • Review of analytics, strategies, CPSDs, and CPFs • Indicator-based relevance analysis to assess the alignment between countries’ priorities and country portfolios
1b. How does the World Bank Group’s portfolio respond to the needs for addressing the challenges of raising productivity, improving inclusion, and reducing sustainability threats from climate change?	Country	<ul style="list-style-type: none"> • Synthesis of World Bank Group staff and client interviews • PRA and desk studies • Alignment between the global and country strategies and between country strategy and portfolio
2. How effective is World Bank Group support in making the AFS more productive, inclusive, and sustainable?		
2a. How effective is the World Bank Group in supporting productivity growth and the adoption of sustainability standards by farmers and agribusiness firms?	Farm or firm	<ul style="list-style-type: none"> • Within- and across-case analysis • Desk-based review of finance and insurance in agrifood system development • PRA of World Bank and IFC portfolio • Targeted SLR • World Bank Group staff interviews
2b. How effective is World Bank Group support in enhancing the inclusion of small farmers and agribusiness small and medium enterprises in markets and value chains?		<ul style="list-style-type: none"> •
2c. Based on World Bank Group experiences, what are the lessons for, success factors of, and constraints on delivering development outcomes linked to a productive, inclusive, and sustainable AFS?	Farm or firm	<ul style="list-style-type: none"> • Within- and across-case analysis of case studies • Desk-based review of <i>Finance & Insurance</i>
2d. How has the coordination between the World Bank, IFC, and MIGA contributed to enhancing the World Bank Group’s support of developing the AFS?	Corporate or global	<ul style="list-style-type: none"> • CPSD and CPF assessment • Synthesis of World Bank Group staff and client interviews • Synthesis of evidence (1a, 1b, 2a, and 2b)

Source: Independent Evaluation Group.

Note: AFS = agrifood system; CPF = Country Partnership Framework; CPSD = Country Private Sector Diagnostics, country strategies, and CPFs; IFC = International Finance Corporation; MIGA = Multilateral Investment Guarantee Agency; PRA = portfolio review and analysis; SLR = structured literature review.

7.3 The relevance analysis will assess the World Bank Group's strategic approaches and support in identifying and addressing the challenges of raising productivity, improving inclusion, and reducing sustainability threats from climate change in the AFS. To identify the global strategic approach of the World Bank Group to AFS development, evaluation question 1a will be addressed by performing a PRA and review of World Bank Group strategy documents at the global level.²⁷ The relevance analysis will then look at how the global strategy aligns with the country-led strategy by analyzing Country Partnership Frameworks and other relevant documents. Finally, the relevance analysis will look at how the needs for addressing key AFS development challenges as identified by global indicators are operationalized in the World Bank Group's portfolio by conducting an indicator-based PRA using credible and open-source global data sets. The analysis of alignment between the global and country strategies will be conducted for selected client countries at different stages of AFS development, whereas the indicator-based PRA will cover the entire AFS portfolio, including World Bank lending, IFC investments and advisory, of all Bank Group client countries.

7.4 The effectiveness analysis will look at how effective Bank Group support has been in contributing to AFS development outcomes, considering the role of internal and external factors. A simple evaluative framework for the effectiveness analysis will be constructed using SLR and PRA. The SLR will identify the main AFS-related interventions, evidence on the achievement of intended outcomes (productivity, inclusion, and sustainability), and the contextual success factors for and constraints on effectiveness in client countries.²⁸ The SLR will further contribute to the portfolio review, inform the case study approach, and identify evidence gaps on effectiveness. The analysis of a limited number of case studies of typical Bank Group interventions and the PRA on the global portfolio will generate evaluative evidence on effectiveness, success factors, and constraints. Case studies will also allow to address market and policy failures that prevent AFS actors to become more productive, exclude them from value chains or make them operate in an unsustainably manner. These case studies will rely primarily on existing available evidence and, in a limited number of cases, will collate and analyze secondary data. IFC AFS portfolio in finance and insurance (see table E.6) will be covered in a dedicated desk-based review. Because of the limited availability of evaluative evidence from project level evaluations (in form of Expanded Project Supervision Reports), the analysis will, however, have to build also on literature and existing evidence from other evaluations and impact studies.

7.5 The evaluation will purposively select case studies based on the review of the World Bank Group portfolio by applying systematic criteria to identify typical case

studies. The evaluation will use PRA to classify World Bank Group interventions into distinct groups with common objectives. Then, “typical” case studies that are representative of a wider set of World Bank Group interventions will be identified. The selection of projects as typical case studies will consider the stage of AFS development (focus on countries at early stages), the key (sub)sector covered, inclusion of small producers and firms in value chains, the availability of secondary data or existing complementary evaluative evidence, and the representation of AFS activities supported by the World Bank and IFC. At least 6 (and possibly 10–12) light case studies (about 70–80 percent from LICs and LMICs) will be selected to allow for diversity in sampling to reflect the complex portfolio, including private sector participation in agricultural production and processing, that is, in the up- and midstream parts of the value chain. Appendix E explains the design, selection, and analysis of case studies in detail.

7.6 Within-case analysis of typical case studies—in combination with PRA—will provide specific evidence on the effectiveness of World Bank Group interventions on selected outcomes at the farm and firm level (evaluation questions 2a and 2b). A desk-based review of project documents, evaluative evidence generated by IEG, and external impact evaluations will generate evidence on how interventions in the case studies have affected the selected outcomes of AFS development. If this desk-based review identifies important evidence gaps, the case study will interview the project staff and key informants. If secondary data are available, such as the Living Standards Measurement Study—Integrated Surveys on Agriculture, additional evidence can be generated from mapping the micro-level data with project implementation (see appendix E for details).²⁹ In addition, PRA and content analysis of existing project-level evidence at the global level will generate evidence on project ratings, outcomes, and achievements. Existing project-level evaluative evidence and ratings of IFC interventions will be used as proxies for the analysis of productivity, inclusion, and sustainability of agribusiness firms.

7.7 The evaluation will synthesize and triangulate specific evidence to identify enabling factors, constraints, and lessons for effectiveness (evaluation question 2c). The cross-case analysis of typical case studies will synthesize findings and lessons from the case studies to identify success and constraining factors that determine project effectiveness. In addition, project-level evidence on performance and lessons from the PRA of IEG validated and evaluated projects will be triangulated with documented evidence on effectiveness, success factors, and lessons from the SLR. The PRA will also identify potential performance differences across subsectors, regions, and stages of AFS development. Finally, the cross-case analysis and SLR will identify the country and operational context to generate relevant lessons on differential project performance.

7.8 The evaluation will assess the approach of and level of coordination between the World Bank, IFC, and MIGA to enhance synergies and effectiveness of the World Bank

Group's support for development of the AFS.³⁰ To address evaluation question 2d, the evaluation will identify existing coordination mechanisms and platforms (for example, Agribusiness Working Group), as well as joint activities through the PRA. Semistructured interviews will be conducted with selected senior staff from the World Bank Group to assess the joint approach and level of coordination and to identify any gaps and opportunities for enhancing effectiveness in catalyzing global and systemic changes for development of the AFS. This will be complemented by a review of how Country Private Sector Diagnostics (CPSDs) have helped inform CPFs with regard to setting a coherent private sector engagement agenda.

Design Limitations

7.9 The evaluation methodology will illustrate the relevance and effectiveness of specific World Bank Group support, but the analysis will be limited in scope and depth, and the evidence will not be broadly generalizable. This evaluation is constrained by its delivery time frame (FY21) and the travel restrictions imposed by COVID-19. Therefore, the effectiveness evaluation is mainly based on PRA, the desk-based review of existing evidence (project ratings, IEG evaluations), and light case studies, complemented with the analysis of secondary data where possible. The focus is on the AFS development challenges in LICs and LMICs, with selected coverage of countries at more advanced stages of development (for learning purposes). The case study approach for the effectiveness questions, using a relatively small number of diverse cases, will produce evidence that is potentially generalizable only to similar types of interventions in the portfolio but will not be able to identify the macro-level factors that contribute to economy and sector-wide changes in agrifood systems.³¹ The external validity of these findings will be limited. Moreover, it will not be possible to rigorously establish causal linkages between interventions and outcomes.

8. Quality Assurance Process

8.1 The Approach Paper and the evaluation will undergo several quality assurance processes. These will include internal IEG and World Bank management and staff review, as well as external peer review. Members of the Committee on Development Effectiveness will also review the Approach Paper and the evaluation report on completion. Quality assurance is also sought through consultations with World Bank management and staff.

8.2 This Approach Paper will be peer reviewed by leading specialists and practitioners. These will include Julie Howard (PhD), senior adviser, Center for Strategic and International Studies, former chief scientist at USAID; Saweda Liverpool-Tasie (PhD), professor, Michigan State University; Ruerd Ruben (PhD), professor,

Wageningen Economic Research, the Netherlands; Pramod K. Joshi (PhD), former director for South Asia, International Food Policy Research Institute.

9. Expected Outputs, Outreach, and Tracking

9.1 A final evaluation report will be delivered to the World Bank Board's Committee on Development Effectiveness, after integrating feedback from World Bank management. The focused evaluation will produce forward-looking lessons and recommendations in selected areas.

9.2 The evaluation will be conducted in consultation with stakeholders. World Bank Group consultations were held to inform the development of the Approach Paper. A wider set of consultations and interviews with staff and clients is planned for the evaluation process. Once the evaluation is disclosed, it will be launched internally and externally as part of a communications and influence strategy. One key event that could potentially be targeted for wider outreach is the United Nations Food Systems Summit 2021. The evaluation's panel of experts will help develop outreach suggestions as part of their wider networks.

10. Resources

10.1 **Timeline and budget.** The evaluation will be submitted to the Committee on Development Effectiveness by the end of Q2, FY22. The budget for the study is estimated at \$800,000, excluding dissemination. The budget was determined by estimating the necessary costs to implement proposed methods.

10.2 **Team and skills mix.** The team's skills mix for the evaluation includes expertise in agricultural development, agricultural economics, markets and value chain analysis, and agribusiness development. Evaluation skills span both qualitative and quantitative methods, including analysis of impacts and econometric analysis of panel data (Living Standards Measurement Study—Integrated Surveys on Agriculture and other) using quasi-experimental approaches. Members of the team are also skilled in relevant evaluation methodologies, including PRA, SLRs, evidence gap maps, and review and analysis of impact evaluations. They also have familiarity with the policies, procedures, and operations of the World Bank.

10.3 The evaluation will be conducted by a core IEG team led and managed by Bekele A. Shiferaw (senior evaluation officer) and Hiroyuki Hatashima (senior evaluation officer). Team members will include April Connelly (senior evaluation officer), Alexandra C. Horst (evaluation officer), Ebru Karamete (evaluation analyst), Joy Kaarina Butscher (junior professional officer, evaluation analyst), and Joachim Vandercasteelen (young professional, agricultural economist), and David Crush (senior expert in

agricultural finance). The evaluation is being prepared under the overall direction of Alison Evans (director-general, Evaluation), José Carbajo Martínez (director, Financial, Private Sector, and Sustainable Development, IEG), and Marialisa Motta (manager, Financial, Private Sector, Infrastructure, and Sustainable Development, IEG).

¹ Hunger (undernourishment) has been declining for several decades. For example, the total number of undernourished people declined from 947 million in 2005 to 822 million in 2010 and 785 million in 2015. However, undernourishment has been on the rise since 2015 and is back to levels seen in 2010–11, threatening to reverse progress toward the goal of ending global hunger and malnutrition by 2030. The situation is most alarming in Africa, where since 2015 the prevalence of undernourishment has increased steadily in almost all subregions (FAO 2019).

² Growth in agriculture is generally two to three times more effective at reducing poverty than an equivalent amount of growth outside agriculture (Christiaensen and Martin 2018).

³ The World Bank has projected that the coronavirus pandemic (COVID-19) could push 88 to 115 million people—over 85 percent of them from South Asia and Sub-Saharan Africa—into extreme poverty, effectively wiping out progress since 2017 (World Bank 2020a). The United Nations has also projected that, because of the pandemic, the number of people facing acute food insecurity will double in 2020 from 130 million to 265 million (FAO 2020; WFP 2020). In addition, a World Bank study concluded that climate change could wipe out hard-won gains in poverty reduction and force more than 100 million people into poverty by 2030, especially in Africa and South Asia (Hallegatte et al. 2016)

⁴ See appendix J for definitions of key terms.

⁵ The impressive achievements in increasing productivity and reducing hunger in some Regions, such as Latin America and the Caribbean, have come at the expense of significant environmental and health costs (Morris, Sebastian, and Perego, 2020).

⁶ Laborde et al. (2019) focus on 13 lagging countries: Burkina Faso, Ethiopia, India, Kenya, Malawi, Mali, Mozambique, Rwanda, Tanzania, Togo, Uganda, Zambia, and Zimbabwe. The structural and demographic drivers that define the agricultural transformation context are the birth rate, land availability, and soil fertility.

⁷ Primary production accounts for about 40 percent of the total value of agricultural output in Africa compared with about 20 to 30 percent in other regions (AGRA 2019; Reardon et al. 2019).

⁸ Taking into account current annual actual investments of US\$220b to address an overall investment need of US\$480b, required to achieve the SDGs.

⁹ In 2010, there were approximately 600 million cases of foodborne illness worldwide, and their impact is disproportionately larger in low-income countries (WHO 2015).

¹⁰ The action plan called for increased emphasis on climate-smart agriculture to “increase productivity in an environmentally and socially sustainable way, strengthen farmers’ resilience to climate change, and reduce agriculture’s contribution to climate change by reducing greenhouse gas emissions and increasing carbon storage on farmland” (World Bank Group 2013,

26).[[AQ: I found the quote in the action plan I found online and added to the Refs; please double-check I have the right source and page number.]]

¹¹ To achieve its objectives, FoodSystems2030, the umbrella trust fund, will support integrated activities along nine pathways: better diets; prevention of zoonotic diseases; improved food safety; reduction in greenhouse gases; reduction in pollution; improved land, water, and food loss and waste management; promotion of productivity growth; increased job creation; and maintenance of trade flows (World Bank 2020b, 2).

¹² IFC support the agricultural transformation process also in ancillary areas, specifically around infrastructure but also provision of input factors, for example packaging and fertilizer. To allow for a better absorption in the institution, IEG and IFC agreed to focus this evaluation on agribusiness and financial services targeting AFS actors.

¹³ The United Nations Secretary-General will convene a Food Systems Summit in 2021 to raise global awareness, commitments, and bold actions that transform food systems (<https://www.un.org/en/food-systems-summit>).

¹⁴ Encompassing access to insurance, financial intermediation and access to credit, crop financing, equipment financing, financial/capital market development, commodities markets, capital raising, long-term finance, and trade finance.

¹⁵ While client monitoring data can be used to assess the profitability of International Finance Corporation (IFC) client firms, these data do not allow measurement of profitability of other small and medium enterprises and firms affected by IFC interventions.

¹⁶ Despite these limitations, the uptake of the sustainability standards and good agricultural practices, including E&S Performance Standards, can be used to assess how the World Bank Group is contributing to enhance farm and agribusiness sustainability (see below).

¹⁷ Sustainability is a broad concept and includes social, economic, and environmental dimensions (FAO 2018). This concept is encapsulated in the World Bank Group’s vision for a sustainable food system of “healthy people, a healthy planet and healthy economies” (World Bank 2020b, 1). Economic sustainability of the AFS in this sense refers to sustainable increases in the productivity of farms and agribusiness firms. Social sustainability refers to inclusive or equitable distributional outcomes that contribute to poverty reduction and shared prosperity (relating to jobs, gender, food security, nutrition, and health for all). Environmental sustainability refers to an AFS that is resilient to shocks and can meet the economic and social needs of current and future populations without compromising the environmental resources that support economic activities (including conservation of scarce natural resources, biodiversity, and ecosystem services). Given this broad concept, this evaluation will focus mainly on some aspects of environmental sustainability through analysis of how the World Bank Group identifies and addresses the threats from climate change (in the relevance analysis) and the uptake of sustainability standards (in the effectiveness analysis).[[AQ: This note is 178 words; OK to exceed ~80 word limit?]]

¹⁸ This will include relevance analysis of the relatively new portfolio on digital disruptions in agriculture which is not yet ready for a focused analysis of effectiveness.

¹⁹ Economic sustainability of the AFS in this sense refers to sustainable increases in the productivity of farms and agribusiness firms. Social sustainability refers to inclusive or equitable distributional outcomes that contribute to poverty reduction and shared prosperity and reduce undesirable social impacts (relating to jobs, working conditions, indigenous peoples, cultural heritage, gender, food security, nutrition, and health for all). Environmental sustainability refers to an AFS that is resilient to shocks and can meet the economic and social needs of current and future populations without compromising the environmental resources that support economic activities (including conservation of scarce natural resources, biodiversity, and ecosystem services).

²⁰ Addressing to what extent WBG interventions are in line with the needs of a country has to be done with great care as the AFS portfolio is narrow (e.g. does not include forests) and may not reflect the true picture of WBG's response to address environmental and climate change challenges. The analysis will therefore focus on whether CPFs have adequately prioritized climate change (adaptation and mitigation) and natural resource management issues for enhancing sustainability as part of agrifood systems development in client countries.

²¹ For the effectiveness analysis of IFC and MIGA projects, the analysis will rely on the E&S performance standards. The project-level evaluative evidence on adhering to the relevant performance standards will be used as a proxy to assess contributions to environmental sustainability.

²² The scope also excludes interventions focusing on fisheries, forestry, water resources management, provision of rural services (for example, water, education, health, security), and rural infrastructure (not directly linked to the AFS). The nonfarm income sources are covered under a previous Independent Evaluation Group evaluation (World Bank 2017b).

²³ For IFC, low income countries represent 7% and lower middle-income countries represent 46%.

²⁴ As part of the relevance analysis, IEG will assess to what extent the WBG portfolio is aligned with country needs; this analysis will cover WBG AFS projects in all regions. In the sample of 17 case studies proposed for the evaluation, 8 cases (47%) are in LICs, 7 cases (41%) are in LMICs, and 2 cases (12%) are in upper middle-income countries (UMICs). Taken together, MICs account for 53% of the case studies. Furthermore, the portfolio-based effectiveness analysis will cover all evaluated AFS projects across countries.

²⁵ Operations approved before 2010 are excluded to focus on the recent strategy and approach of the World Bank Group for AFS transformation and on closed operations with ratings validated by the Independent Evaluation Group after the global food crisis and World Development Report of 2008.

²⁶ Existing Project Completion Reports (PCRs) do not cover relevant outcomes in a systematic manner, however, so that the evaluation will try to use additional IFC monitoring data.

²⁷ A review and quantitative analysis of the World Bank, IFC, and Multilateral Investment Guarantee Agency portfolios will collect information on the number of projects in the approved portfolio and their thematic breakdown across priority AFS transformation issues, distribution

across countries and regions with emphasis on low-income and lower-middle-income countries, and financial commitments.

²⁸ The review will be conducted by experienced academics and PhD students and will include a collection and synthesis of available evidence, such as from systematic reviews and impact assessments of World Bank Group projects related to selected AFS outcomes and intermediate outcomes as defined in the theory of change.

²⁹ The evaluation will also consider whether sector-level data (for example, from UNIDO, the United Nations Industrial Development Organization) can be leveraged to understand trends in productivity, value addition, and employment in agribusiness firms.

³⁰ The systemic changes may include expanding the World Bank Group's global leadership and convening role; mainstreaming country-led approaches and ownership; enhancing the sequencing or internal coordination for targeted investments (for example, development policy lending to foster and enable private investment in AFS); and enhancing coordination between partners.

³¹ Understanding why some countries are able to accelerate and transform their agri-food systems while others are lagging would require taking a country-level lens in conducting case studies, including the role of other development partners over a longer period of time. While the systemic "business environment" related factors will be identified as part of assessing effectiveness of WBG interventions, such analysis would be beyond the scope of this evaluation.

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Appendix A. Evaluation Design Matrix

Key Questions	Data Collection and Analysis Methods	Information Required and Sources	Strengths and Limitations
<p>1. How relevant is the World Bank Group in its strategy and support for addressing the key challenges to AFS development and transformation in client countries?</p> <p>EQ1 a. What are the World Bank Group's strategic approaches for addressing the challenges of raising productivity, improving inclusion, and reducing sustainability threats from climate change?</p>	<ul style="list-style-type: none"> Review of analytics, strategies, and other corporate policy document of strategic importance Assess alignment between global strategy and country strategies (CPFs), using external data sources Review of Country Private Sector Diagnostics (CPSDs) to assess how they have made CPFs more relevant Synthesis of WBG staff Interviews Phone interviews of selected clients (conditional on availability) 	<ul style="list-style-type: none"> World Bank Group strategies and action plans (evolution and interviews, based on country AFS development classification) Country priorities (CPFs, client interviews) Interview of selected WBG staff and selected clients (based on availability) 	<p>The feedback from the desk review and SLR, interviews with WBG management; external experts; and respondents will help triangulate and confirm the strategies and approaches and the scope of the WBG's engagement in AFS development. Review of CPFs will be a stratified sample from country clusters/typologies for specific on AFS transformation classification.</p>
<p>EQ1 b. How does the World Bank Group's portfolio respond to the needs for addressing the challenges of raising productivity, improving inclusion, and reducing sustainability threats from climate change?</p>	<ul style="list-style-type: none"> PRA and classification of portfolio along AFS-relevant outcome dimensions of productivity, market and social inclusion and sustainability Assess how the global AFS portfolio reflects the needs of countries by means of an indicator-based PRA based on reputed global data sets covering all AFS relevant outcome dimensions 		<p>Same as EQ1 a. Data quality and data gaps / coverage have to be carefully reviewed to ensure adequacy of selected data sets</p>

Key Questions	Data Collection and Analysis Methods	Information Required and Sources	Strengths and Limitations
<p>EQ2. How does the WBG support contribute to making agrifood systems more productive, inclusive and sustainable??</p> <p>EQ2 a. What are the contributions of WBG activities to supporting productivity growth and adoption of sustainability standards for farmers and agribusiness firms?</p>	<ul style="list-style-type: none"> • PRA of World Bank Group portfolio • Targeted SLR and desk study • Farm level analysis of LSMS-ISA data (for productivity of smallholders) • Synthesis of WBG staff interviews • Case studies of selected WB projects and firms supported by IFC 	<ul style="list-style-type: none"> • Farm level productivity growth and adaption of sustainability standards • Firm level productivity growth and adoption of sustainability standards • Sector/subsector level information on productivity growth and adaptation of sustainability standards • IFC Environmental and Social Performance Standards database • WBG staff interviews • Case studies in selected countries. 	<p>Data relating to business performance as a proxy for productivity of private sector client firms (IFC and MIGA) is readily available for the evaluated portfolio but there is no such data for the World Bank projects and IFC AS projects – for which adoption of standards and financial sustainability is not systematically collected or analyzed. LSMS-ISA data, other data (for example, UNIDO and FAO data), and in some cases, stylized facts or anecdotal evidence may be used to fill gaps.</p>
<p>EQ2 b. What are the contributions of the World Bank Group activities to enhancing inclusion of small farmers and small agribusiness firms in markets and value chains?</p>	<ul style="list-style-type: none"> • PRA of IFC and WB data on inclusion • Targeted SLR and desk study • WBG staff interviews • Micro: Farm level analysis of existing LSMS-ISA data (for marketed surplus and VC participation of smallholders) • Case studies of selected agrifood industries (inclusion, contracting, diversification, coordination, adapting to shocks to reduce market disruptions, etc) 	<ul style="list-style-type: none"> • Project components/ KPIs; findings from ICRR/XPSR/PCR/PER/PPARs (inclusiveness SME, value chain indicators) • Case studies in selected countries (similar to EQ2 a) 	<p>Same as EQ 2.a</p> <p>Unlike at the World Bank, KPI data is not readily available for IFC IS, AS and MIGA</p>

Key Questions	Data Collection and Analysis Methods	Information Required and Sources	Strengths and Limitations
<p>EQ2c. Based on World Bank Group experiences, what are the lessons for, success factors of, and constraints on delivering development outcomes linked to a productive, inclusive, and sustainable AFS?</p>	<ul style="list-style-type: none"> • Synthesis of success factors and lessons from micro evaluations (World Bank, IFC) • Synthesis of success factors and lessons from targeted SLR and desk studies • Synthesis of World Bank Group staff interviews • Synthesis of main findings, success factors, and lessons from case studies 	<ul style="list-style-type: none"> • Project components/KPIs; findings from ICRRs, XPSRs, PCRs, PERs, PPARs (SME, VC indicators related to productivity, inclusion, and sustainability of the AFS) • IFC Environmental and Social Performance Standards database • Case studies in selected countries 	<p>Same as EQ2a and 2b.</p>
<p>EQ2d. How has the coordination between the World Bank, IFC, and MIGA contributed to enhancing the World Bank Group’s support of developing the AFS?</p>	<ul style="list-style-type: none"> • Identification of joint activities and coordination mechanisms (for example, AWG) • Synthesis of interviews of World Bank Group staff and selected clients • Drawing on the above referred CPSD review to assess how CPSDs enabled a better coordinated WBG-wide response for the private sector • Synthesis of case studies • Synthesis of data on past food supply/crisis response 	<ul style="list-style-type: none"> • World Bank Group interviews of key staff involved in common platforms • Selected country engagement and strategic planning and execution records • Evidence of coordinated program/project execution • Evidence of collaboration within country programs (desk study or as part of selected case studies) 	<p>Interviews with World Bank Group task team leaders and managers can be a valuable source of information on the institutional factors, capacity, and other factors driving or inhibiting coordinated effort.</p>

Source: Independent Evaluation Group.

Note: AS = advisory services (IFC); ASA = advisory services and analytics (World Bank); AWG= Agribusiness Working Group; CPF = Country Partnership Framework; EQ = evaluation question; FAO = Food and Agriculture Organization; ICRR = Implementation Completion and Results Report Review; IFC = International Finance Corporation; KPI = key performance indicator; LSMS-ISA = Living Standards Measurement Study—Integrated Surveys on Agriculture (World Bank); MIGA = Multilateral Investment Guarantee Agency; PCR = Project Completion Report; PER = Project Evaluation Report; PPAR = Project Performance Assessment Report; PRA = portfolio review and analysis; SLR = structured literature review; SMEs = small and medium enterprises; UNIDO = United Nations Industrial Development Organization; VC = value chain; XPSR = Expanded Project Supervision Report.

Appendix B. Preliminary Portfolio Identification and Review

Preliminary Scope

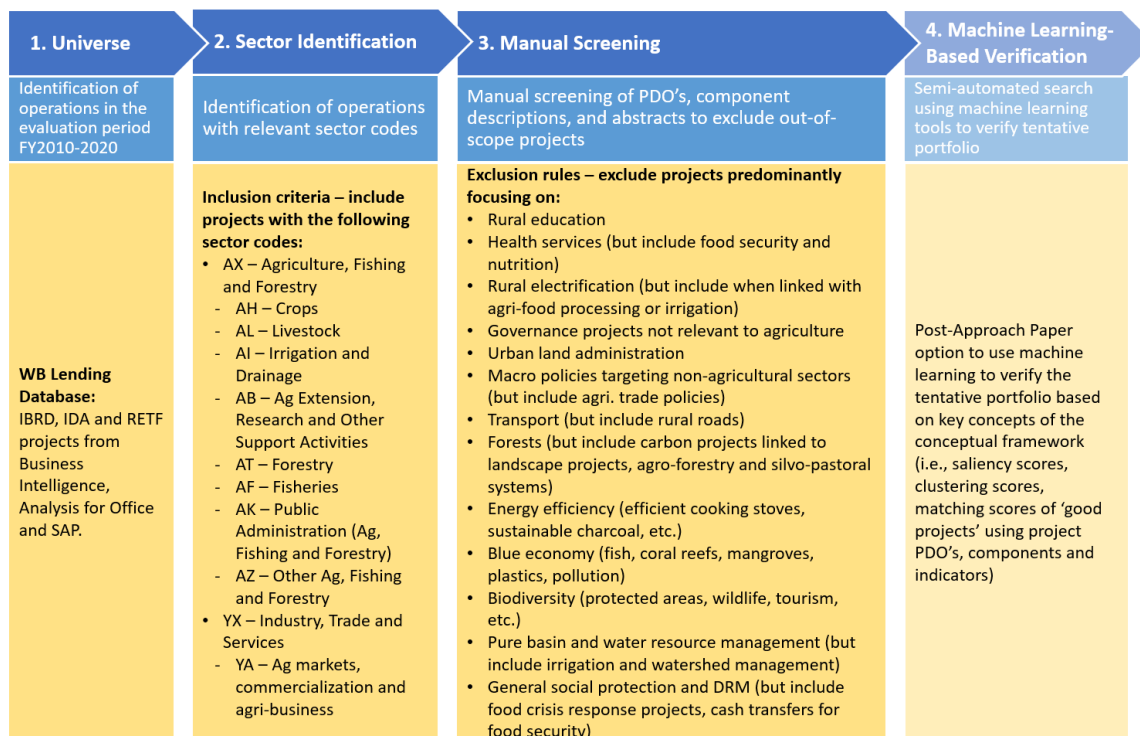
The preliminary scope of the evaluation to address the two questions on relevance and effectiveness will cover agrifood system (AFS) development projects that span investments, advisory services and analytics, and guarantees that were approved during fiscal years (FY)10–20. This constitutes the World Bank Group’s support to agricultural development and transformation after the 2008 food crisis and the last World Development Report on agricultural development.

Criteria for Portfolio Identification

World Bank investment portfolio. The Independent Evaluation Group (IEG) identified the AFS portfolio in three stages (see figure B.1):

1. First, the universe of operations funded by the International Bank for Reconstruction and Development and the International Development Association) were identified from Business Intelligence, Analysis for Office and SAP for the evaluation period FY10–20.
2. Second, projects with the agrifood-related level 1 and level 2 sector codes were extracted using level 1 codes AX (Agriculture, Fishing, and Forestry) and YX (Industry, Trade, and Services). After this extraction, projects less than US\$5 million that did not require IEG’s evaluation were excluded, yielding 796 unique projects.
3. A third-stage identification was done manually using project development objectives, component descriptions, and image bank abstracts. Exclusion criteria were applied to eliminate irrelevant projects. All pure forestry and fisheries projects were excluded (see figure E.1 for exclusion criteria). This identification effort yielded 607 unique projects.
4. A fourth-level granular identification and categorization using semiautomated portfolio identification methods will be conducted with the support of the IEG data science team during the evaluation period to refine and categorize the portfolio.

Figure B.1. World Bank Investment Lending Portfolio Identification



Source: Independent Evaluation Group.

Note: FY = fiscal year; IBRD = International Bank for Reconstruction and Development; IDA = International Development Association; PDO = project development objective; RETF = recipient-executed trust fund.

World Bank advisory services and analytics portfolio. Advisory services and analytics (ASA) projects were extracted from the Enterprise Data Catalogue by applying the same agrifood-related sector codes as described above (except fisheries and forestry codes). Small ASA projects (that is, less than US\$10,000) were excluded from the portfolio. For the same period, 496 ASA projects were identified.

International Finance Corporation (IFC) investments. The AFS portfolio for investments approved during FY10–20 was extracted using IFC's Agribusiness and Food Supply Chain Indicator, which includes projects and activities in the financing and development of production, processing, and handling of agricultural and food products. The indicator cuts across industry and sector classifications.

IFC advisory services. Advisory services (AS) were extracted from IFC's data portal, using the Advisory Services Agribusiness Sector identifier, with 25 percent or more of project components as Agribusiness. Additional projects below this threshold were manually included in common agreement with IFC and IEG. The identifier includes agrifood production, processing, warehousing, and financial services connected to agrifood businesses. Only AS client-facing projects at the "Completed" and "Portfolio" stages are included.

Multilateral Investment Guarantee Agency (MIGA) guarantees. The portfolio was obtained by extracting the Agriculture sector code in the MIGA Portal for guarantees issued during FY10–20, which includes both political risk insurance and credit enhancement products. Additional projects, not marked in the Agricultural sector code, were included manually after a common agreement between the MIGA and the IEG staff.

Preliminary Portfolio

The preliminary portfolio for projects, investments, and guarantees for the World Bank, IFC, and MIGA is presented in table E.1. This portfolio comprises 607 World Bank projects, 331 IFC investments, and 21 MIGA guarantees with explicit AFS components. The scope does not include operations that were approved before 2010. These are excluded to focus on the recent strategy and approach of the World Bank Group for AFS transformation and on closed operations with ratings validated by IEG after the global food crisis and World Development Report of 2008. Additionally, there are 495 World Bank advisory services and analytics and 210 IFC advisory services for FY10–20.

Table B.1. World Bank Group: Approved Agrifood Projects, FY10–20

Commitment Type	All Projects	Closed	Active	Commitment (US\$, millions) ^a
Projects or investments	938	429	509	47,539
World Bank projects	607	291	316	38,012
IFC investments ^b	331	138	193	9,527
Analytic and advisory activities	705	567	138	569
World Bank ASA	495	478	17	152
IFC advisory services ^c	210	89	121	417
MIGA guarantees ^d	21	-	-	474
Total	1,643	996	647	48,582

Source: World Bank Business Intelligence Database, World Bank Enterprise Data Catalogue, IFC Management Information System Database, IFC Advisory Services Operations Portal, and MIGA Portal.

Note: — = not available; ASA = advisory services and analytics; FY = fiscal year; IEG = Independent Evaluation Group; IFC = International Finance Corporation; MIGA = Multilateral Investment Guarantee Agency;

a. Agrifood share of project commitments.

b. IFC own account original commitment amount, excluding mobilization.

c. IFC Advisory Services total funding amount managed by IFC.

d. MIGA amount is gross exposure amount.

World Bank Investment Portfolio

World Bank projects by lending instrument are presented in table B.2. Investment project financing is the main instrument, making up 68 percent of projects and 78 percent of net commitment amount. This is followed by development policy lending

(18 percent of projects and 8 percent of net commitment amount). Program-for-Results projects have been recently added to the portfolio (6 percent of net commitment amount).

Table B.2. Number of Projects and Commitment Amounts by Lending Instrument, Approved, FY10–20

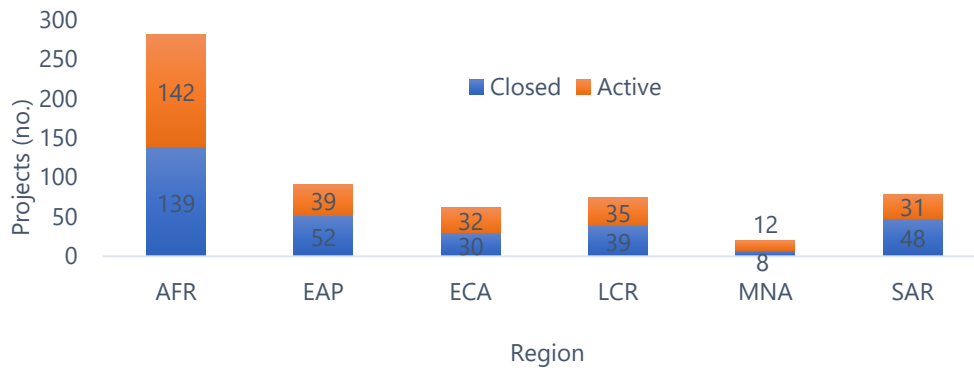
Instrument	Projects				Net Commitment Amount			
	Active (no.)	Closed (no.)	Total (no.)	Total (percent)	Active (US\$, millions)	Closed (US\$, millions)	Total (US\$, millions)	Total (percent)
APL	0	7	7	1	60	140	200	1
DPL	14	94	108	18	845	2,383	3,228	8
ERL		15	15	2		240	240	1
FIL		1	1	0		3	3	0
IPF	289	125	414	68	24,183	5,360	29,543	78
P4R	13	2	15	2	2,230	118	2,348	6
SIV	0	45	45	7	622	1,820	2,442	6
TAL		2	2	0		9	9	0
Total	316	291	607	100	27,940	10,073	38,013	100

Source: World Bank Business Intelligence Database.

Note: Totals may differ slightly from the sum of the numbers listed owing to rounding error. APL = adaptable program loan; DPL = development policy loan; ERL = emergency recovery loan; FIL = financial intermediary loan; FY = fiscal year; IPF = investment project financing; P4R = Program-for-Results (financing); SIV = specific investment loan; TAL = technical assistance loan.

Breakdown by Region. In terms of regional representation, the highest number of projects by far is in Africa Region (281), followed by East Asia and Pacific (91); see figure E.2. The lowest number of projects is in the Middle East and North Africa Region (20). In terms of net commitment amount, Africa Region again leads with US\$14.1 billion, followed by South Asia Region with US\$9.2 billion (see figure E.3).

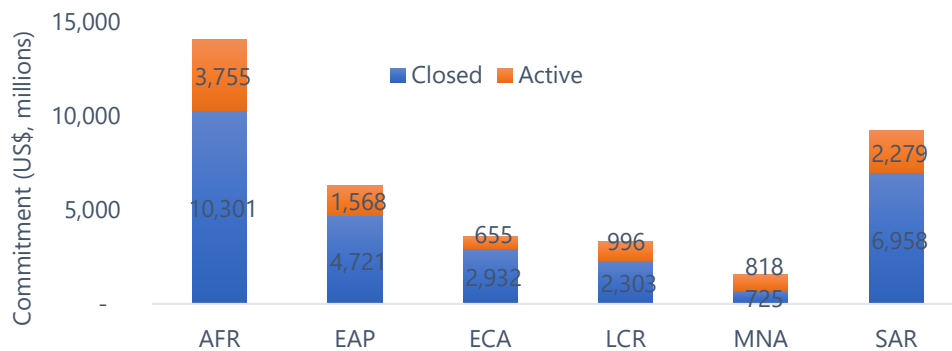
Figure B.2. Number of Projects by Region, Approved, FY10–20



Source: World Bank Business Intelligence Database.

Note: AFR = Africa; EAP = East Asia and Pacific; ECA = Europe and Central Asia; FY = fiscal year; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa; SAR = South Asia.

Figure B.3. Net Commitment Amount by Region (US\$, millions), Approved, FY10–20

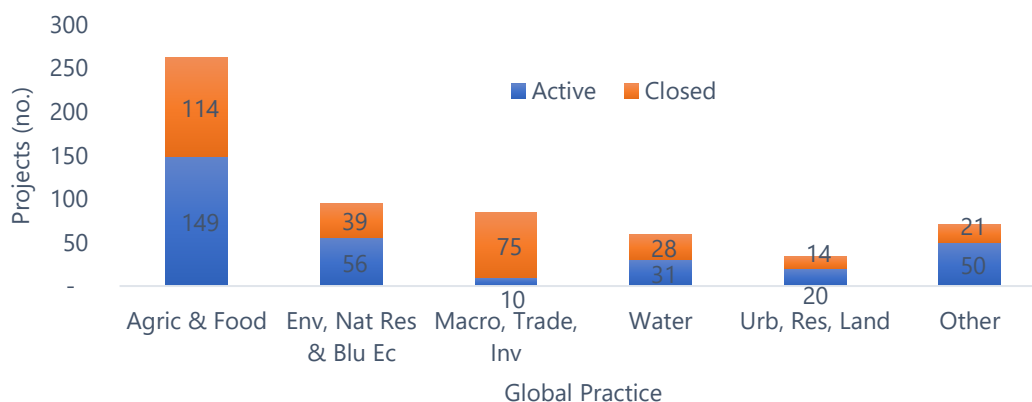


Source: World Bank Business Intelligence Database.

Note: AFR = Africa; EAP = East Asia and Pacific; ECA = Europe and Central Asia; FY = fiscal year; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa; SAR = South Asia.

Breakdown by Global Practice. In terms of breakdown by Global Practice, the highest number of projects is located under the Agriculture Global Practice, as expected, with 263 projects, followed by Environment and Natural Resources with 95 projects (see figure E.4). In terms of net commitments, Agriculture leads as well with US\$23.6 billion commitment amount. This is followed by Water with US\$5.9 billion (see figure E.5).

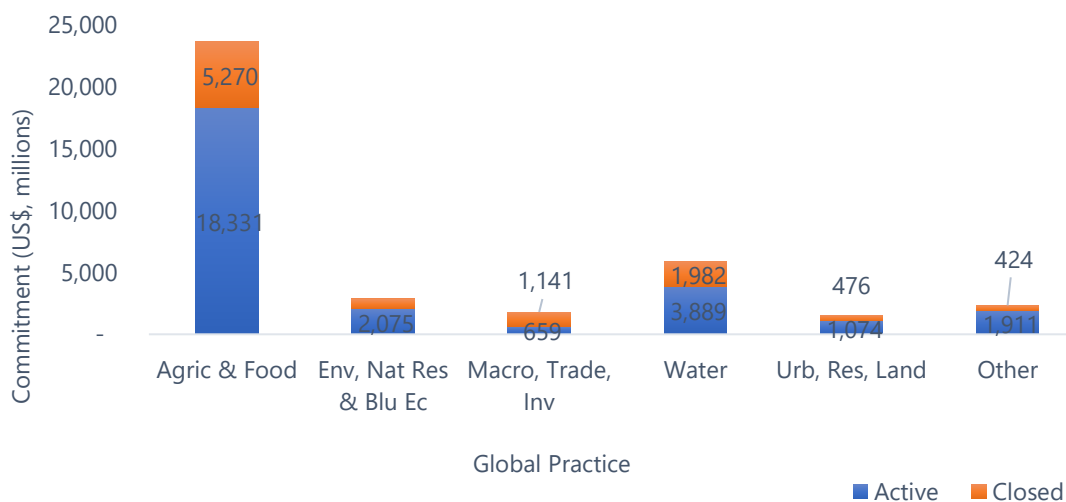
Figure B.4. Number of Projects by Global Practice, Approved, FY10–20



Source: World Bank Business Intelligence Database.

Note: AGR = Agriculture; ENR = Environment and Natural Resources; FY = fiscal year; MTI = Macroeconomics, Trade, and Investment; URL = Urban, Disaster Risk Management, Resilience, and Land Transport; WAT = Water.

Figure B.5. Net Commitment Amount by Global Practice (US\$, millions), Approved, FY10–20



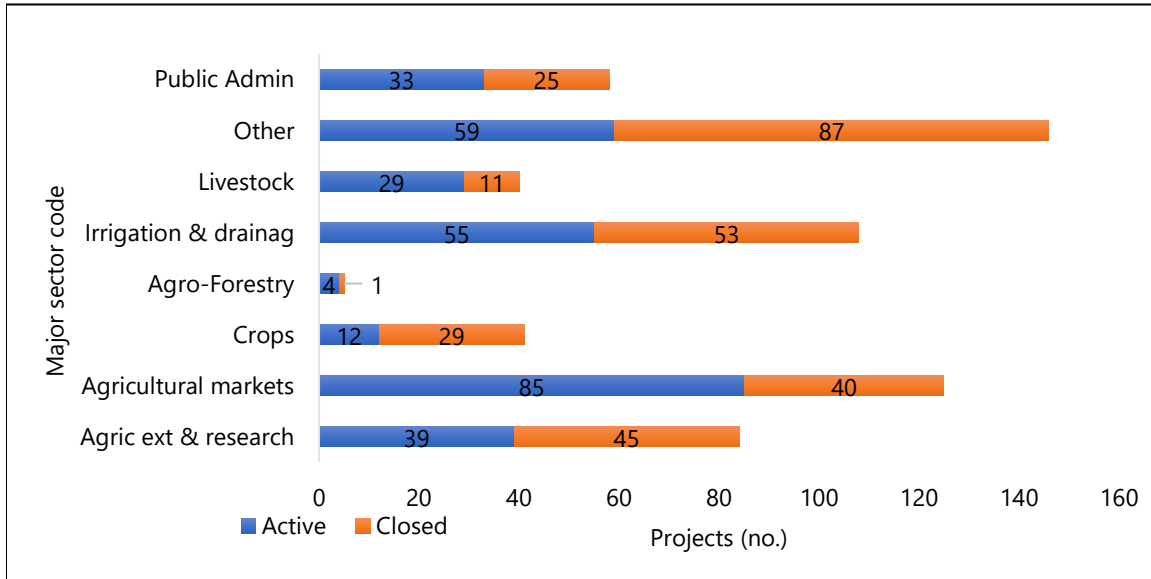
Source: World Bank Business Intelligence Database.

Note: AGR = Agriculture; ENR = Environment and Natural Resources; FY = fiscal year; MTI = Macroeconomics, Trade, and Investment; URL = Urban, Disaster Risk Management, Resilience, and Land Transport; WAT = Water.

Breakdown by major sector. The breakdown of projects by major sector code (based on highest allocated commitment amount; figure E.6) shows that the majority of projects (146) are categorized under the “other agriculture, forestry, and fisheries” code, which is a combination of various types of projects with multiple intervention types from agroforestry to rural infrastructure. This is followed by the “agricultural markets” sector code with 125 projects. There are 118 irrigation and drainage projects and 84 agricultural

extension and research projects. , crops code is used by 41 projects, livestock code is used by 40 projects and there are five projects that are categorized as agro-forestry projects (see Figure E.6.).

Figure B.6. Number of Projects by Major Agricultural Sector Code, Approved, FY10–20

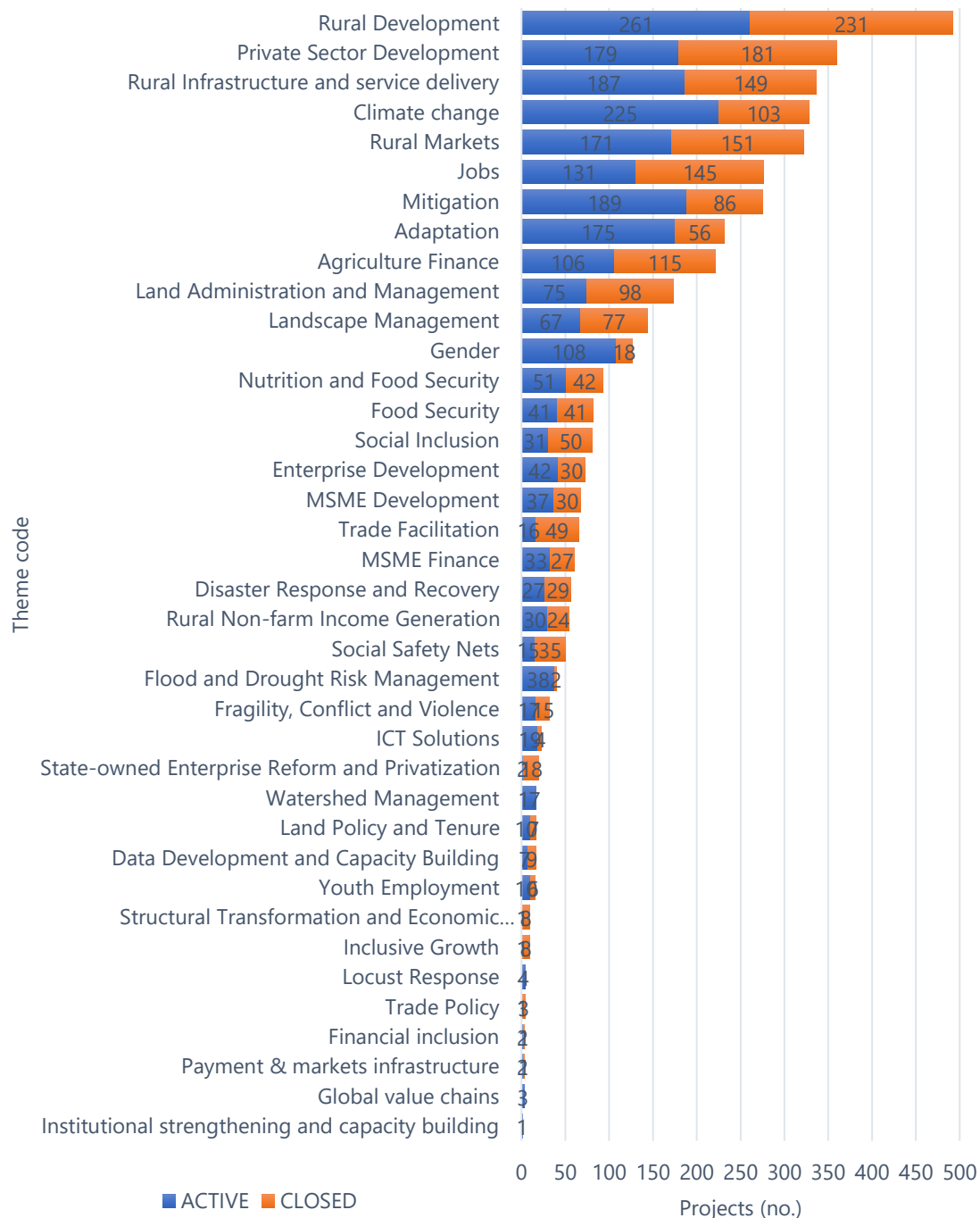


Source: World Bank Business Intelligence Database.

Note: admin = administration; ext = extension; FY = fiscal year.

Breakdown by theme. In terms of thematic breakdown, rural development is the main theme code that most projects (492) are mapped to, followed by private sector development, rural infrastructure, climate change, rural markets, and jobs (figure E.7). This is followed by climate mitigation and adaptation; agriculture finance; land administration; landscape management; gender; nutrition and food security; social inclusion; micro, small, medium enterprise development and finance; trade facilitation; disaster response; rural nonfarm income generation; social safety nets; flood and drought risk management; fragility, conflict, and violence; information and communication technology solutions; and others.

Figure B.7. Number of Projects by Theme Code, Approved, FY10–20



Source: World Bank Enterprise Data Catalogue.

Note: FY = fiscal year; ICT = information and communication technology; MSME = micro, small, medium enterprise.

IEG outcome ratings. In terms of IEG outcome ratings, of 199 projects evaluated by IEG, 71 percent were rated above the line (outcome rating moderately satisfactory or above, MS+) and 29 percent were below the line (moderately unsatisfactory or below; table E.3). The percentage of projects rated MS+ fluctuated over time (see figure E.8).

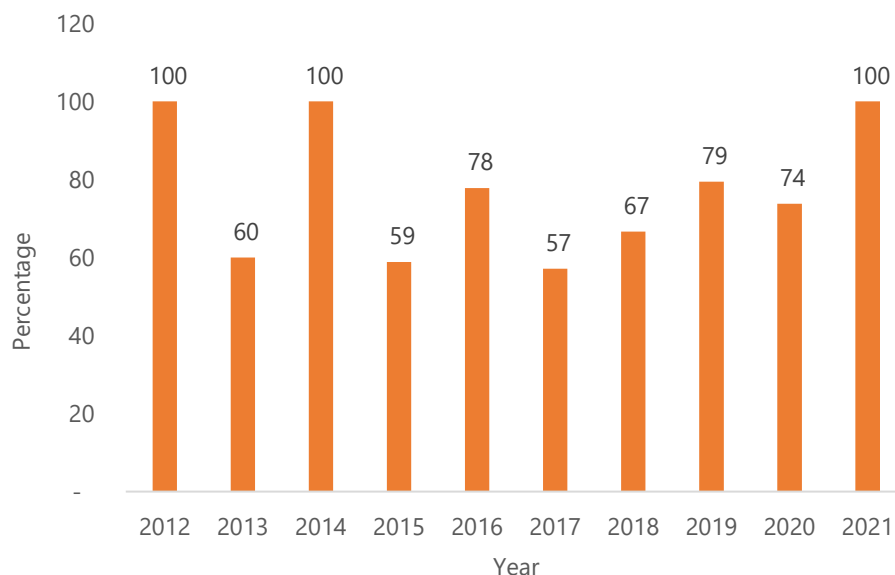
Table B.3. Number of Projects by IEG Outcome Ratings, Approved, FY10–20

IEG Outcome Rating	Projects (number)	Projects (percent)	MS and Above (percent)
Highly satisfactory	3	2	71
Satisfactory	56	28	
Moderately satisfactory	83	42	
Moderately unsatisfactory	42	21	
Unsatisfactory	13	7	
Highly unsatisfactory	2	1	
Total	199	100	

Source: World Bank Business Intelligence Database.

Note: Totals may differ slightly from the sum of the numbers listed owing to rounding error. FY = fiscal year; IEG = Independent Evaluation Group.

Figure B.8. Percentage of Projects with IEG Outcome Rating MS+, Evaluation Fiscal Years 2012–2021



Source: World Bank Business Intelligence Database.

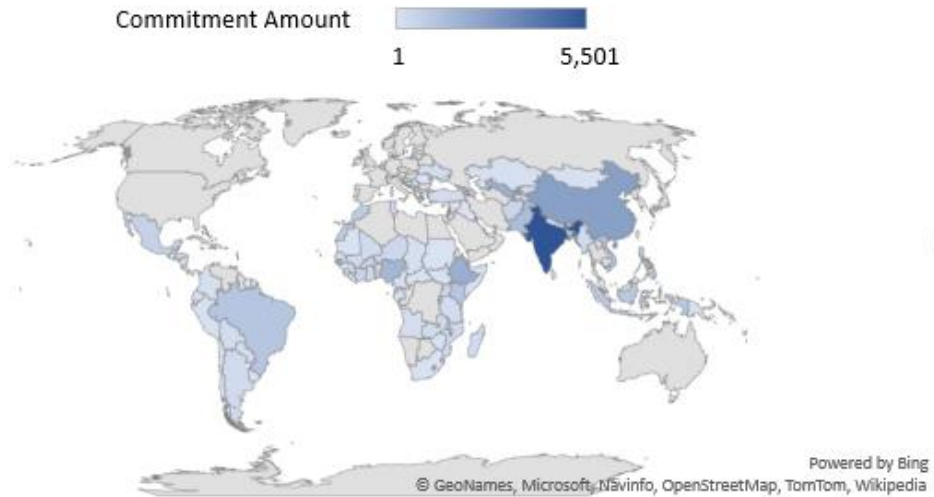
Note: Total number of projects evaluated are as follows: in 2012, 3 projects; 2013, 5; 2014, 7; 2015, 17; 2016, 18; 2017, 28; 2018, 42; 2019, 34; 2020, 42; and 2021, 3. MS+ (moderately satisfactory and above) includes outcome ratings that are highly satisfactory, satisfactory, and moderately satisfactory. IEG = Independent Evaluation Group.

Project Performance Assessment Reports. In addition, there are 17 completed field-based IEG evaluations (Project Performance Assessment Reports; PPARs) and 1 planned

PPAR. Of these PPARs, 11 are in the Africa Region (Burkina Faso, the Central African Republic, Ethiopia, Ghana, Malawi, Rwanda); 2 in East Asia and Pacific (Mongolia, Indonesia); and 3 in Latin America and the Caribbean (Bolivia, Jamaica, Peru). In the Europe and Central Asia Region, there is 1 completed PPAR (Uzbekistan) and 1 planned PPAR (Montenegro).

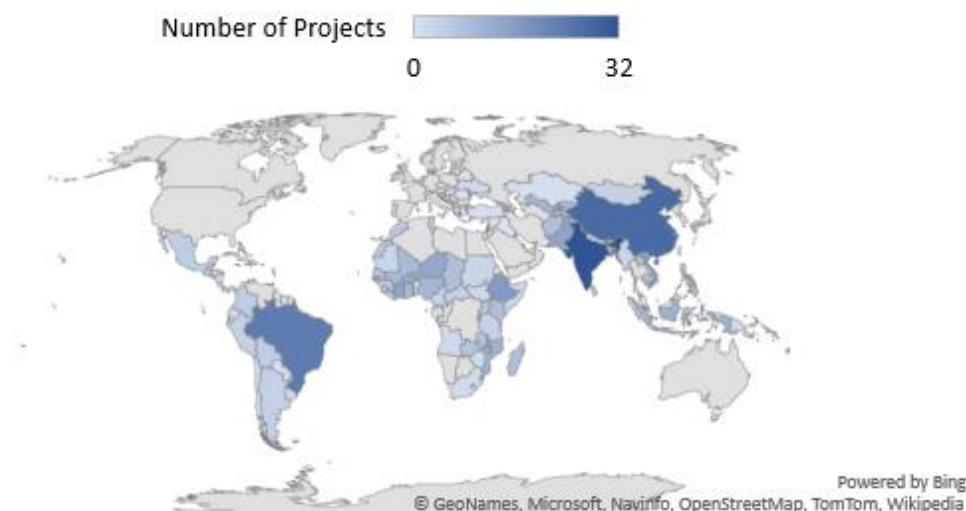
Breakdown by country. When sorted by net commitment amount, the top 10 countries are India, China, Ethiopia, Uzbekistan, Nigeria, Pakistan, Vietnam, Brazil, Kenya, and Indonesia (see map E.1). In terms of number of projects, the top 10 countries are India, China, Brazil, Ethiopia, Western Africa, Vietnam, Pakistan, Côte d’Ivoire, Malawi, and Burkina Faso (see map B.2).

Map B.1. Net Commitment Amount by Country, FY10–20 (US\$, millions)



Source: World Bank Business Intelligence Database.
Note: FY = fiscal year.

Map B.2. Number of Projects by Country, Approved, FY10–20



Source: World Bank Business Intelligence Database.

Note: FY = fiscal year.

World Bank ASA Portfolio

There are 495 ASA projects with commitments amounting to US\$159 million, of which 17 are active and the rest are closed projects. The majority of projects under this portfolio comprise nonlending technical assistance, followed by economic sector work and research services (see table E.4). About 17 of these projects are reimbursable advisory services projects (that is, the World Bank is reimbursed by the client countries for the costs of delivering these advisory services).

Table B.4. World Bank Advisory Services Projects, Closed, FY10–20

Product Line	Projects				Amount			
	Active (no.)	Closed (no.)	Total (no.)	Total (percent)	Active (US\$, millions)	Closed (US\$, millions)	Total (US\$, millions)	Total (percent)
Advisory services and analytics	4	41	45	9	5	17	22.1	14
Donor and aid coordination	11	4	15	3	1	1	1.7	1
Economic and sector work		155	155	31	—	30	30.0	19
External training		1	1	0	—	1	0.8	0
Impact evaluation		13	13	3	—	3	2.6	2

Product Line	Projects				Amount			
	Active (no.)	Closed (no.)	Total (no.)	Total (percent)	Active (US\$, millions)	Closed (US\$, millions)	Total (US\$, millions)	Total (percent)
Research services	2	78	80	16	0	46	45.9	29
TA (nonlending)		186	186	38	—	56	56.5	36
Total	17	478	495	100	7	152	159.0	100

Source: World Bank Enterprise Data Catalogue.

Note: Totals may differ slightly from the sum of the numbers listed owing to rounding error. FY = fiscal year; TA = technical assistance; — = not available.

IFC Investment Project Portfolio—Agri-Food Chain, Commitment FY10–20

IFC projects for the portfolio analysis were chosen by IFC's "Agri-Food Chain Ind—Agri-Food Chain Indicator" in the IFC portfolio database. The indicator is designed to align IFC's strategic emphasis on (i) enhancing food security, (ii) enhancing inclusive growth and shared prosperity, and (iii) making sustainability a business driver. The projects cut across the industry code of "agriculture and forestry" and other businesses related to the corporate emphasis on agribusiness. By Regions, Sub-Saharan Africa is the biggest by number, followed by Europe and Central Asia (which is the largest by volume; see table E.5). By sector and subsector, primary production and commodity processing is the largest (28 percent by number and volume), followed by animal protein and packaged food and beverages (both about 19 percent by number; see table E.6). Other parts of the value chain such as manufacturing, financial services, logistics, and retail represent about 32 percent of the entire portfolio by number, 40 percent by volume.

Table B.5. IFC Agri-Food Chain Investment Project Portfolio by Region

Region	Projects				Commitment Amount			
	Active (no.)	Closed (no.)	Total (no.)	Total (percent)	Active (US\$, millions)	Closed (US\$, millions)	Total (US\$, millions)	Total (percent)
East Asia and Pacific	27	23	50	15.1	586.7	836.5	1423.2	14.9
Europe and Central Asia	56	19	75	22.7	1466.9	616.3	2083.2	21.9
Latin America and the Caribbean	26	43	69	20.8	832.4	1269.4	2101.8	22.1
Middle East and North Africa	10	1	11	3.3	213.7	19.9	233.6	2.5
South Asia	18	21	39	11.8	398.3	682.1	1080.4	11.3

Region	Projects				Commitment Amount			
	Active (no.)	Closed (no.)	Total (no.)	Total (percent)	Active (US\$, millions)	Closed (US\$, millions)	Total (US\$, millions)	Total (percent)
Sub-Saharan Africa	44	31	75	22.7	1193.6	1091.4	2285.0	24.0
World	12	0	12	3.6	319.5	0	319.5	3.4
Total	193	138	331	100	5011.1	4515.7	9526.8	100

Source: IFC Management Information System Database.

Note: Totals may differ slightly from the sum of the numbers listed owing to rounding error. IFC = International Finance Corporation.

Table B.6. IFC Agri-Food Chain Investment Project Portfolio by Industry and Sector

Sector/Subsector	Projects (no.)			Commitment Amount (US\$, millions)		
	Active	Closed	Total	Active	Closed	Total
Agribusiness and forestry	138	93	231	3,678	3,003.5	6,681.5
Animal protein	41	23	64	890	856	1746.0
Packaged food and beverages						
Primary production and commodity processing	36	29	65	989.8	1003	1,992.8
Financial markets	61	41	102	1,798	1,144.6	2,924.6
Commercial banking	20	22	42	590.3	748.6	1,338.9
Microfinance	12	4	16	390.3	112	502.3
NBF (nonbanking financial institution)	5	11	16	128.4	471.5	599.9
Other FIG sector	2	4	6	31.7	144.9	176.6
TCF (trade and commodity)	0	3	3	0	20.2	20.2
Health, education, life sciences	1	0	1	40.0	0.0	40.0
Infrastructure	0	0	0	0.0	0.0	0.0
Electric power	5	5	10	58.8	166.3	225.1
Transportation and warehousing	1	1	2	1.5	5.	6.5
Manufacturing	4	4	8	57.3	161.3	218.6
Chemicals and fertilizers	16	4	20	439.7	287.2	726.9
Construction materials	13	3	16	372.2	277.2	649.4
Energy-efficient machinery	1	0	0	7.5	0.0	7.5
Other manufacturing	1	1	2	30.0	10.0	40.0
Oil, gas, and mining	1	0	1	30.0	0	30.0
Other CDF sectors	0	1	1	0.0	1.3	1.3
Other INFRA sectors	2	4	6	52	73.7	125.7
Other MAS sectors	0	0	0	0.0	0.0	0.0
Telecom, media, and technology	7	6	13	115.0	164.2	279.2
Tourism, retail, construction, and real estate	0	1	1	0.0	6.2	6.2

Sector/Subsector	Projects (no.)			Commitment Amount (US\$, millions)		
	Active	Closed	Total	Active	Closed	Total
Retail	5	2	7	77.3	64.7	142.0
Total	193	138	331	5,011.1	4,515.7	9,526.8

Source: IFC Management Information System Database.

Note: Totals may differ slightly from the sum of the numbers listed owing to rounding error. CDF = Disruptive Technologies and Funds; FIG = Financial Institutions Group; IFC = International Finance Corporation; INFRA = Infrastructure; MAS = Manufacturing, Agribusiness, and Services.

IFC Advisory Services (Commitment FY10–20)

IFC advisory services (AS) projects were extracted from IFC’s data portal, using the Agribusiness Sector identifier, with 25 percent or more of project components as agribusiness. The identifier includes agrifood production, processing, and warehousing, as well as financial services connected to agrifood businesses. Only AS client-facing projects at the “Completed” and “Portfolio” stages are included.

The largest part of the portfolio by both number and volume is Sub-Saharan Africa (about 40 percent by number; see table E.7). Crop production was the dominant area, representing 71 percent of projects within the portfolio (see table E.8).

Table B.7. IFC Agrifood Advisory Services Projects by Region

Region	Projects (no.)			Funding Amount (US\$, millions)		
	Active	Closed	Total	Active	Closed	Total
East Asia and Pacific	25	14	39	38.62	34.25	72.88
Europe and Central Asia	5	14	19	15.40	27.94	43.34
Latin America and the Caribbean	13	16	29	18.37	20.14	38.51
Middle East and North Africa	2	2	4	0.72	1.76	2.48
South Asia	13	18	31	13.82	32.40	46.21
Sub-Saharan Africa	56	23	79	133.74	55.83	189.57
WORLD	7	2	9	18.99	4.46	23.45
Total	121	89	210	239.66	176.76	416.43

Source: IFC Advisory Services Operations Portal.

Note: IFC = International Finance Corporation.

Table B.8. IFC Agrifood Advisory Services Projects by Sector/Subsector

Sector/Subsector	Projects (no.)			Funding Amount (US\$, millions)		
	Active	Closed	Total	Active	Closed	Total
Agriculture and forestry	101	67	168	210.58	129.04	339.63
Animal production	19	8	27	41.57	6.46	48.03
Crop production	82	59	141	169.01	122.59	291.60

Sector/Subsector	Projects (no.)			Funding Amount (US\$, millions)		
	Active	Closed	Total	Active	Closed	Total
Finance and insurance						
Commercial banking	13	9	22	17.77	29.97	47.74
Insurance	5	3	8	2.96	14.31	17.28
Microfinance	6	5	11	14.06	13.78	27.84
Other NBFI	0	1	1	0.00	1.87	1.87
Food and beverages	2	0	0	0.75	0.00	0.75
Food manufacturing	6	7	13	11.00	9.48	20.48
Transportation and warehousing	1	6	7	0.31	8.26	8.58
Warehousing and storage	1	6	7	0.31	8.26	8.58
Total	121	89	210	239.66	176.76	416.53

Source: IFC Advisory Services Operations Portal.

Note: IFC = International Finance Corporation; NBFI = nonbanking financial institution; — = not available.

MIGA Guarantees (FY10–20)

The MIGA portfolio was obtained by extracting the Agriculture sector code in the MIGA Portal, over the guarantees issued during FY10–20, for both political risk insurance and credit enhancement products.

Projects in Sub-Saharan Africa are the dominant group, representing 62 percent of projects by number (see table E.9). MIGA's Small Investment Program (SIP) was used for 46 percent of cases (21 projects; see table E.10).

Table B.9. MIGA Agriculture Sector Projects (FY10–20) by Region

Region	Projects (no.)			Gross Exposure (US\$, millions)		
	Active	Not active	Total	Active	Not active	Total
East Asia and Pacific	0	0	0	0	0	0
Europe and Central Asia	0	1	1	0	49.5	49.5
Latin America and the Caribbean	0	1	1	0	48.8	48.8
Middle East and North Africa	0	1	1	0	2.7	2.7
South Asia	0	0	0	0	0	376.12
Sub-Saharan Africa	10	8	18	174.8	198.8	373.1
Total	10	11	21	174.8	299.7	474.1

Source: MIGA Portal.

Note: FY = fiscal year; MIGA = Multilateral Investment Guarantee Agency.

Table B.10. MIGA Agriculture Sector Projects (FY10–20) by Region and Project Type

Region	Projects (no.)			Gross Exposure (US\$, millions)		
	Non-SIP	SIP	Total	Non-SIP	SIP	Total
East Asia and Pacific	0	0	0	0	0	0
Europe and Central Asia	1	0	1	49.5	0	49.5
Latin America and the Caribbean	1	0	1	48.8	0	48.8
Middle East and North Africa	0	1	1	0	2.7	2.7
South Asia	0	0	0	0	0	0
Sub-Saharan Africa	10	8	18	324.8	48.4	373.1
Total	12	9	21	423.0	51.0	474.1

Source: MIGA Portal.

Note: FY = fiscal year; MIGA = Multilateral Investment Guarantee Agency; SIP = Small Investment Program.

Appendix C. Summary of Previous Evaluations

The Independent Evaluation Group has evaluated the World Bank Group’s support for agricultural and rural development, but evidence gaps remain on the contribution of its effort toward improving agricultural productivity at the farm and firm level and developing agrifood systems to enhance inclusion and sustainability. This evaluation will build on the existing studies listed in table G.1.

Table C.1. Previous Evaluations Conducted by the Independent Evaluation Group on World Bank Group Agricultural Development Projects

Evaluation	Summary
Industrial Competitiveness and Jobs (2017)	<ul style="list-style-type: none"> • Time frame: 2008–2014 • Objective: assess (i) contribution of World Bank Group to improve productivity and competitiveness, and (ii) implications for jobs • Productivity (value added) assessed mainly at the country level (macro) • Portfolio review and analysis included agriculture projects, mostly IBRD/IDA, but no insights regarding agrifood system development and transformation
Rural Nonfarm Economy (2017)	<ul style="list-style-type: none"> • Time frame: 2004–2014 • Objective: assess (i) contribution of World Bank Group to creation of sustainable income-generating opportunities for the rural poor within the rural nonfarm economy, and (ii) attributable effects of Bank Group efforts on reducing poverty • Focus on farm/nonfarm poverty outcomes • Value chain support (“growth-oriented approaches”) assessed mostly in transitioning and urbanized economies • Comparison of some value chain approaches, but not exhaustive
IFC’s Experience with Inclusive Business (2018)	<ul style="list-style-type: none"> • Time frame: 2005–2017 • Objective: (i) assess the role and effectiveness of IFC in its support of its clients’ inclusive business models, and (ii) identify implications and options for IFC’s future support to inclusive business • Performance of inclusive agribusiness projects was compared with that of other IFC agribusiness projects • Key results drivers identified through a focused review of agribusiness-inclusive business projects • Assessed significance of IFC’s nonfinancial additionality reviewed for the deepening of the clients’ engagement with base of the economic pyramid stakeholders
Creating Markets (2019)	<ul style="list-style-type: none"> • Time frame: 2007–2017 • Objective: distill lessons from World Bank Group’s experience in creating markets to leverage private sector for sustainable development and growth • Agribusiness Deep Dive key messages focused on IFC interventions (for example, finance and information and communication technology for agriculture) and reiterating findings of literature • Outcome assessment on market creation based on six country cases/project level, not on farm level

Evaluation	Summary
Global Value Chains (GVCs, ongoing)	<ul style="list-style-type: none"> • Time frame: 2005–2020 • Objective: (i) take stock of World Bank Group engagement with IDA countries on GVCs, (ii) assess the contribution of Bank Group support to enhancing GVC participation and benefits, and (iii) identify the main factors that have influenced the Bank Group’s ability to contribute to GVC-related outcomes
Undernutrition (ongoing)	<ul style="list-style-type: none"> • Time frame: 2008–2019 • Objective: assess (i) to what extent the World Bank is supporting relevant interventions to improve outcomes and intermediate outcomes of child undernutrition and its determinants within the country context; (ii) how the World Bank is implementing multidimensional approaches to support outcomes and intermediate outcomes that improve child undernutrition and its determinants, and strengthen countries’ institutional capacities; and (iii) to what extent World Bank interventions have contributed outcomes, intermediate outcomes, and outputs toward the building blocks of the conceptual framework, and identify the factors of success and failure

Source: Independent Evaluation Group.

Note: GVC = global value chain; IBRD = International Bank for Reconstruction and Development; IDA = International Development Association; IFC = International Finance Corporation.

Added value of agrifood system evaluation:

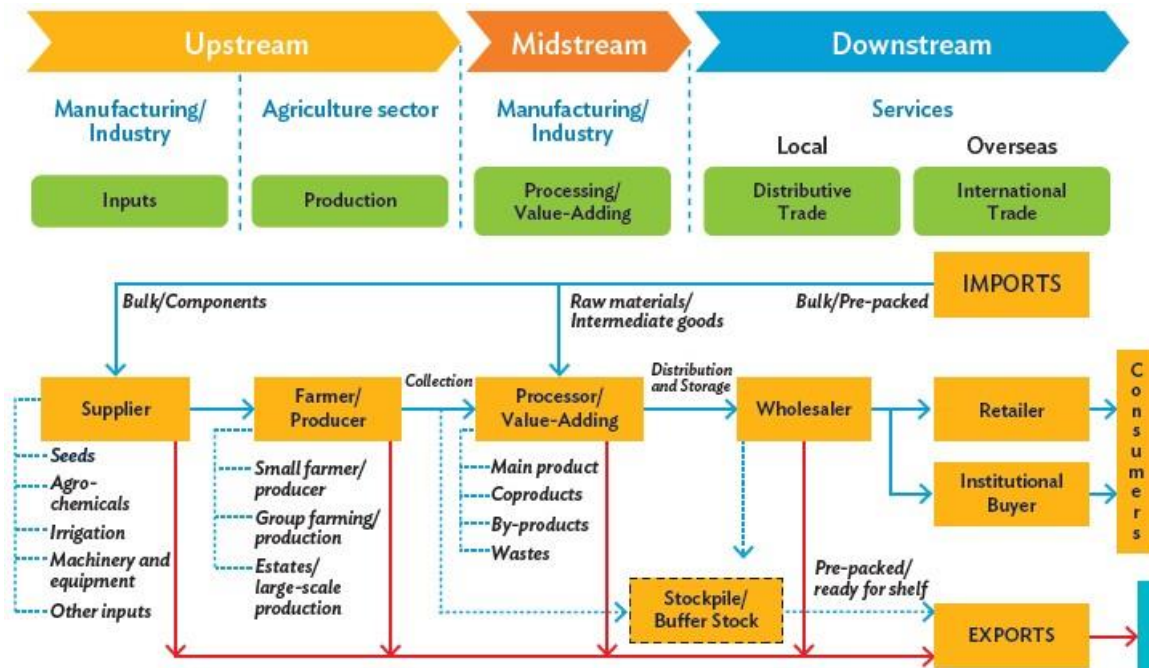
- Newer time frame and portfolio (2010–20);
- Analysis of agrifood system development effects at farm level and firm level;
- Focus on agrarian and transitioning economies;
- Comparison of different types of value chain approaches in selected agrifood systems;
- Assessment of both farm and nonfarm outcomes (for example, agricultural productivity, inclusion, and sustainability); and
- Potential to cover International Bank for Reconstruction and Development and International Development Association, International Finance Corporation, and Multilateral Investment Guarantee Agency lending, guarantees, and advisory services and analytics portfolio.

Appendix D. The Agrifood System and the Stages of Transformation

The Agrifood System

The AFS is built around the *supply chain* that produces raw products on the farm and transforms them to food and related products that are delivered to the market (figure H.1). The supply chain consists of different segments. Upstream, raw agricultural products are produced by different modalities (small farms, farm organizations, or large-scale estates) in the agricultural sector. The upstream segment also includes the companies that deliver agricultural inputs (seeds, agrochemicals, equipment) or offer agricultural services (irrigation management, machinery). The midstream segment concerns the firms and agribusinesses that process raw agricultural products into food products and add value to the production process. The downstream segment contains firms in the service sector responsible for distribution, storage, retail, and sales of the food products in the domestic or international market. The final element in the supply chain is the ultimate consumer of the food products.

Figure D.1. The Structure of the Agrifood System



Source: Adapted by Independent Evaluation Group based on ADB 2016.

The AFS involves different segments of the economy. Broadly speaking, the AFS consists of both the agricultural sector and the broader agrifood industry. In the primary agricultural sector, producers are expected to produce a consistent supply of high-

quality raw material. Once that is produced, a large group of firms, businesses, and small and medium enterprises (SMEs) in the secondary or tertiary sector of the economy is involved in moving the product off the farm. It includes processing companies in the manufacturing sector, traders and wholesalers to bring food products to the market, and marketing activities by the retail sector. It also, however, includes companies active in the financial sector that provide agricultural inputs or services for production. The term *agribusiness* thus encompasses all firms, businesses, and SMEs that are active in the agrifood sectors off the farm.

An *agribusiness value chain* arises when the efforts of the actors in the different segments are coordinated and interlinked. For this to happen, the midstream segment must be able to add value to raw products to produce high-quality and safe food products. The consumer is expected to reward the increased quality and safety of the food products by paying a price premium. At the core of the value chain is redistribution of this value to keep the actions of the different players in the value chain coordinated. These actors also interact through the flow of innovation, technologies, information, and capital that allows for productivity and quality upgrading. In the process, trust and long-term contractual engagements are built.

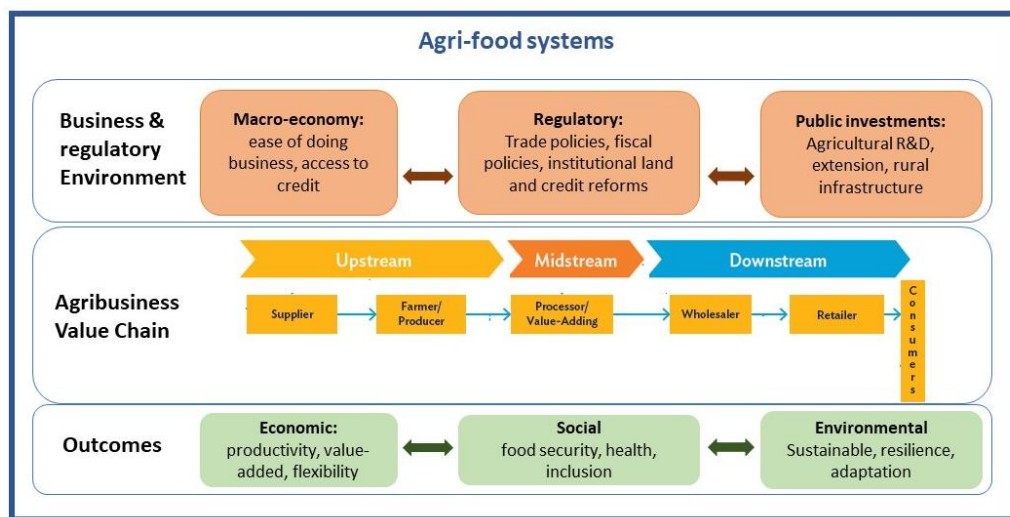
The coordinated efforts of the different actors in the agribusiness value chain are shaped by the business and regulatory environment in which these actors operate. The business environment refers to the macroeconomic conditions that govern the ease of doing business in the AFS and thus the extent to which the private sector is involved. This includes access to agricultural finance and insurance from public and commercial financial institutions, access to appropriate business support, and access to information and communication technology—factors that are needed to start and operate efficient agribusinesses. The regulatory framework includes regional and national trade and fiscal policies that can be conducive for trading or not. It also includes institutional reforms in the credit and land market that might facilitate the business and trading environment. Public investments refer to public expenditures on agricultural research and development, agricultural extension, rural infrastructure, and technologies to enable the development of the AFS in rural settings.

Finally, the AFS includes the intended economic, social, and environmental outcomes of an efficient, inclusive, and sustainable agribusiness value chain. *Economic* outcomes refer to improved efficiency of the entire value chain by increasing farmers' productivity (returns to land and labor) and the higher value added by processors and other SMEs. It also refers to a flexible and responsive AFS that can adjust to economic shocks, such as changing consumer demand, trade disruptions, or price fluctuations. *Social* outcomes are diverse and relate to distributional effects. Food security, health, and nutrition outcomes refer to improved access and affordability of healthy and diversified food and the

reduction of postharvest losses and food waste. Inclusion refers to the improved distribution of economic benefits (market integration, profits, jobs) across the different actors in the value chain, ranging from small-scale farmers to processors to SMEs active in the service sector and across different population groups. *Environmental* outcomes refer to the adaptation to and mitigation of climate change and other impacts. Environmentally sustainable operations aim to avoid or minimize negative environmental impacts, conserve scarce natural resources, and prevent biodiversity loss. Resilience refers to the improved capacity of the value chain (actors) to cope with and adapt to hazardous climatic and weather events, trends, or disturbances to maintain its essential function, identity, and structure.

As illustrated in figure H.2, the AFS combines the agribusiness value chain, its intended outcomes, and the business and regulatory environment into one integrated framework that allows us to better understand the interlinkages between the different actors and processes.

Figure D.2. Expected Outcomes from Developing the Agrifood System



Source: Adapted by Independent Evaluation Group based on ADB 2016.
 Note: R&D = research and development.

Stages of AFS Development

While the food system in every country is in some respects unique, almost all food systems tend to pass through similar developmental stages. Following McCullough et al. (2008), Morris, Sebastian, and Perego (2020), and Reardon et al. (2019), three major types of food systems can be distinguished, characterized by their position along a developmental continuum: (i) traditional, (ii) transitional, and (iii) integrated.

Traditional food systems. Traditional food systems typically are found in the so-called agrarian economies (World Bank 2008), in which income levels are still low and a large share of the population lives in rural areas and relies on agriculture as their primary livelihood. Most rural households are not integrated into markets, growing crops and raising animals destined mainly for home consumption, with occasional small surpluses sold in local markets to generate cash income. Food production methods involve few purchased inputs, rely heavily on family labor, and make limited use of capital. Traditional food systems tend to be spatially compact; because most transactions take place in spot markets, they often feature short supply chains with few coordination mechanisms. Transactions are rarely subject to quality and safety standards. Because consumers have limited purchasing power, diets are dominated by low-value foods, chiefly cereals, roots, and tubers.

Transitional food systems. Transitional food systems abound in the so-called transitioning economies, in which income levels have started to rise and a growing share of the population has migrated to towns and cities and relies on off-farm sources of income as their primary livelihood. Food production methods are becoming increasingly sophisticated, making greater use of purchased inputs and replacing labor with capital through mechanization. Transitional food systems tend to be spatially expansive; because more and more people live at some distance from places where food is produced, longer supply chains are needed to deliver food from the countryside to urban centers. The longer supply chains give rise to large numbers of intermediaries, who rely increasingly on contracts to ensure coordination along the supply chain. As incomes rise, the purchasing power of consumers grows and consumption of high-value foods rises, including meat and fish, dairy products, and fruits and vegetables. While some consumers may want to know about the sources of the food they buy, transactions are not always subject to quality and safety standards.

Integrated food systems. Integrated food systems are prevalent in highly urbanized or industrialized economies, in which a large share of the population has achieved middle-income status, lives in cities, and no longer relies on agriculture as a major livelihood. Food production methods become extremely sophisticated; in many cases, they are dominated by specialized agribusiness firms that have the resources and know-how to take advantage of cutting-edge global technologies. Integrated food systems tend to be spatially expansive, characterized by the long supply chains needed to deliver food to urban populations. Out of a need to respond to ever more educated and demanding consumers, quality and safety control are increasingly demanded by the food industry.

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Case Study Design and Analysis

Definition. Case studies will be defined based on “typical” WBG intervention approaches and data will be collected for each case separately at the farm and firm level. Depending on the type of support and the World Bank Group institution providing the support, project beneficiaries could be groups of farmers (World Bank projects), agribusiness companies (IFC projects), or both (value chain interventions). One project can have several beneficiaries when different subsectors are supported (for example, different crop or livestock products) or when different agents in the value chain are supported (for example, farmers, cooperatives and processors). The cases will therefore be defined at the level of farmer groups for farm level (e.g. common interest groups, producer alliances) or at the level of agribusiness companies for firm level.

Selection. The case studies will be selected purposively based on the review of the relevant portfolio and applying systematic criteria that will help identify and capture the most prominent intervention approaches by the World Bank Group. The typical cases will be selected from more homogenous intervention approaches or focus areas that will help capture and represent the most relevant underlying heterogeneity. The main purpose of the purposive sampling of the typical World Bank Group intervention approaches is to enhance the validity of the evaluation findings by capturing the relevant heterogeneity that affects project effectiveness. To do so, the evaluation will review the project documents to identify the intended group of project beneficiaries across different subsectors and the delivery model through which these beneficiaries were supported by the projects. The choice of the typical World Bank Group intervention approaches or clusters will also consider the stage of AFS development of the client country and the type of beneficiary and associated sub-sector products (e.g. food staples, high value products such as fruits and vegetables, animal protein, dairy, and beverages) to which the project support is provided.

To retain a sample of projects and beneficiaries within projects that serve as case studies, the following selection criteria for typical World Bank Group intervention approaches will be considered: (i) representation of client countries and regions at different stages of AFS development, (ii) coverage of key subsectors (e.g., food staples, animal protein, HVPs including perishables) that are critical for developing and transforming the AFS, (iii) agribusiness value chains that link small producers and SMEs with processors, wholesalers, or exporters, (iv) availability of data or existing complementary evaluative evidence such as project and external impact evaluations, (v) representation of World Bank and IFC supported AFS activities, and (vi) potential to conduct supervised case studies using local experts where feasible. A total of 2-3 key sub-sectors will be identified to include in the case studies based on desk review of the portfolio such that

the case-based analysis will provide the main patterns of change, success factors and constraints that limit effectiveness in the major sub-sectors at the global level.

The sampling of case studies in each stratum for the farm and firm level outcomes will be are illustrated in the table below. A total of 15-20 light case studies including IFC investments and advisories are expected to be undertaken (see Table D.1). The sample size is determined based on the evaluation timeline and minimum data that is necessary to capture the relevant heterogeneity and the patterns of change in the desired outcomes at the farm and firm level for countries at the different stages of AFS development. With a focus on coverage of the underlying heterogeneity, the data collection will be light to capture the minimum data needed to understand the patterns of change and the potential factors that drive or constrain these changes.

Table D.1. Proposed sampling of case studies according to project beneficiaries and stage of AFS development

Project Outcomes	Traditional AFS countries	Transitional AFS countries	Integrated AFS countries	Total cases
Farm level	5	4	1	10
Firm level	5	1	1	7
Total cases	10	5	2	17

Note: the different stages of AFS development are taken from Morris et al. (2020).

Within-case study analysis. A desk-based review will study the different project documents (ICR and PAD), evaluative evidence generated by IEG (e.g. PPAR), and external impact evaluations coordinated by the project (if available). These different information sources will first be used to identify project beneficiaries and delivery models (as indicated above). It will then be used to generate evidence on how the project components and interventions have affected the selected outcomes of AFS development at the level of the project beneficiaries. If this desk-based review of project documents identifies important evidence gaps, the case study will conduct interviews with the TTL of the project and key informants (investment officer, client project coordinator or M&E specialist, sector expert) to better understand the project outcomes with the involvement of IEG trained local experts (consultants). The within case analysis would entail identifying the common factors associated with intervention impacts and effectiveness in generating expected outcomes within a given focus area or cluster.

Cross case study analysis. The evaluation will conduct a synthesis and pattern analysis of the documented changes in the behavior and outcomes of project beneficiaries across the different focus areas or clusters. The cross case analysis will draw lessons on the joint enabling factors and constraints for effectiveness in supporting AFS development across cases and focus areas in client countries.

Analysis of Existing Data

The evaluation will leverage existing data from the Living Standards Measurement Study - Integrated Surveys on Agriculture (LSMS-ISA) for selected countries to assess the effectiveness of World Bank Group interventions. LSMS-ISA designs and implements multiple rounds of nationally representative surveys with a strong focus on agriculture and rural development issues. The surveys are implemented by the local National Statistical Agencies, with supervision and technical support by the World Bank LSMS team. Multiple survey rounds are available for Ethiopia, Mali, Malawi, Niger, Nigeria, Tanzania, and Uganda. In most countries, the same households are interviewed over time resulting in a panel data set at the household level. The LSMS-ISA surveys collect unique multi-dimensional farm household data with a strong focus on agriculture. Data are collected at the plot, input, crop, animal, parcel, individual and household level. The LSMS-ISA data are designed to be representative at national level and in most cases also at the subnational level (that is, the first administrative subnational unit).

The availability of different rounds of (aggregated) data at subnational level allows a descriptive discussion of the trends in agricultural development and transformation over space and time. First, for a given survey round, the aggregated value of agricultural indicators can be compared between subnational units. Second, for a given subnational unit, the availability of different survey rounds allows to measure the change in the agricultural indicator over time. Third, combining the previous two, we can compare the change in agricultural indicators over time between subnational units.

Under the right conditions, the trends in the agricultural indicators measured by the LSMS-ISA data can be linked with the support provided by the World Bank to the agricultural sector (see Table D.2). In order to establish the links between the Bank interventions and the estimated changes in outcomes (e.g. crop and livestock productivity (yields), marketed surplus, crop income, livestock income, etc.) using LSMS-ISA data, we need to know the following:

- Bank project intervention areas at the sub-national level (e.g. districts and divisions covered)
- Bank project non-intervention areas (districts, divisions, etc.) that are similar to the districts and divisions treated or covered by the project(s)
- LSMS survey areas (districts, divisions) and households surveyed in the treated and non-treated areas.

Matching of targeted LSMS households with non-targeted households using observed data before the project interventions can be used for identification (i.e., establish statistical comparator groups as counterfactuals).

First, the subnational agricultural trends can be linked with the overall World Bank Group's portfolio (type, composition, funding amount) at subnational level. More specific, agricultural trends can be linked with the implementation (or resource allocation) of thematic clusters of World Bank Group projects at subnational level. For example, the relative or absolute support of the World Bank to agricultural commercialization at the subnational level can be linked with the subnational change in farm commercialization computed using the LSMS-ISA data.

Second, we can also link the subnational agricultural trends over space with the implementation of projects with a pronounced spatial dimension. We refer to this as geographical targeting, that is, the project activities were targeted to a (set of) specific subnational administrative units and assume that the location of project activities is known. This excludes projects that have a country-wide geographical targeting such as national agricultural policies. However, in most cases, these projects are first piloted in a specific group of subnational units.

Under the right conditions, the LSMS-ISA data can be used to analyze the impact of the selected World Bank Group projects on the agricultural development and transformation process. Effectiveness is defined here as the extent to which the project has been able to introduce positive change in agrifood system development outcomes compared to the counterfactual situation where no project support was provided. Effectiveness is measured at the subnational level for which the LSMS data is representative, but it requires that support by the project is provided at the same level. This requirement would be violated when project activities focus, for example, on a small commercial production zone or more commercialized farmers that are non-representative for the subnational unit. It would also make it more difficult to attribute changes in agricultural indicator to the project. Other conditions are explained in the table below.

Table D.2. Conditions under which the LSMS-ISA data can be used to analyze the effectiveness and impact of selected World Bank Group projects

Checklist	Consequence if not?	Solutions?
0 Is the project implemented in a time period for which there is LSMS-ISA data before and (during or) after implementation	Lack of baseline to control for pre-project differences; lack of endline data to measure changes	Matching on agro-ecological characteristics to address baseline issue
1 Is the support at the project level representative for the changes measured at subnational level by LSMS? Are there sufficient supported units covered by the LSMS data?	Attribution issue: cannot claim that project activities introduce changes in subnational agricultural indicator or low power	Proper selection of projects and control for other projects of the WB in the subnational unit
2 Is the randomly selected household interviewed in the LSMS representative for the beneficiary household targeted by the project?	Household-level selection bias: underestimation of project effect on beneficiaries (but valid for intention-to-treat)	If the project has an IE, the LSMS households can be compared with project beneficiaries
3 Are the supported subnational units comparable with non-supported national units in the LSMS data?	Subnational unit selection bias: Overestimation of project effects	Matching on observable characteristics

If these assumptions apply, the time and spatial dimension of the LSMS-ISA data allow to estimate a Difference-in-Difference (DiD) impact of the project on agricultural indicators. The DiD looks at how agricultural indicators have changed before-and-after the project implementation and with-and-without project support.

Appendix E. Definitions of Concepts

- **Agrifood supply chain.** A set of trading partner relationships and transactions that delivers agrifood products from producers to consumers. The supply chain consists of five stages: (i) *production*—the process of growing and harvesting farm products, including the necessary inputs and services; (ii) *handling and storage*—processes after leaving the farm for handling, storage, and transport; (iii) *processing and packaging*—industrial or domestic processing and/or packaging; (iv) *distribution and marketing*—distribution, wholesale, and retail markets; and (v) *consumption*—end use of the product in the home or in the food service industry.
- **Agrifood system.** Coordinated value-adding activities involved in production, aggregation, processing, and distribution of food and related products, as well as the market, policy, and institutional arrangements that govern the social, economic, and environmental outcomes of these activities.
- **Agrifood value chain.** The value-adding activities that link the agrifood producers and other supply chain partners that deal in significant volumes of differentiated agrifood products and distribute rewards across actors in the chain.
- **Climate adaptation.** Process of adjustment to actual or expected climate change and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate change and its effects.
- **Marketed surplus.** Agricultural produce by smallholder farmers in excess of their own home consumption that is targeted for supplying markets.
- **Mitigation (of climate change).** Human intervention to reduce the sources or enhance the sinks of greenhouse gases.
- **Resilience.** Capacity of the agricultural system to cope with hazardous events, trends, or disturbances by responding or reorganizing in ways that maintain its essential function, identity, and structure while maintaining the capacity for adaptation, learning, and transformation.
- **Small farmers.** Smallholder producers who rely primarily on family labor on the farm with modest use of hired labor and other productivity-enhancing inputs. In most countries, this definition corresponds to farms of 3–5 hectares or less.

- **Sustainability standards.** Public or private health, sanitary or phytosanitary, social, and environmental standards and good practices with measurable and enforceable criteria that improve food safety, quality, and labor outcomes and address negative environmental externalities in the AFS. Certain standards such as fair trade also play a role in enhancing inclusion of small farmers and agribusiness firms. Complying with some stringent private standards may, however, require substantial capital, time, and skills and reduce inclusion.
- **Sustainable businesses.** Farms and agribusiness firms that have adopted required sustainability standards and good agricultural practices to reduce the threats and impacts of climate change, as well as the environmental and social impacts and footprints of agrifood activities. The uptake of the standards may not fully show the environmental sustainability of the business.
- **Sustainable food system.** A food system that can deliver improved livelihoods and safe, affordable, and nutritious diets to end hunger and malnutrition while protecting the environment and mitigating climate change.