

FUTURE of FOOD

Maximizing Finance for Development in Agricultural Value Chains



Foreword by Dr. Jim Yong Kim



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1818 H Street NW
Washington DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org

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Authors

Robert Townsend (*Agriculture Global Practice*), Loraine Ronchi (*Finance, Competitiveness, and Innovation Global Practice*), Chris Brett (*Agriculture Global Practice*), and Gene Moses (*International Finance Corporation*), with inputs from members of the *Agriculture Global Practice*: Diego Arias, Michael Morris, Madhur Gautam, Julian Lampietti, Lou Scura, Sergiy Zorya, Sandra Broka, Chakib Jenane, Steven Jaffee, David Nielson, Parmesh Shah, Adama Toure, Manivannan Pathy, Jonathan Wadsworth, Dorte Verner, William Sutton, Lystra Antoine, Nichola Dyer, and Flore de Preneuf; the *Finance, Competitiveness, and Innovation Global Practice*: Panos Varangis, Selma Rasavac, Steve Utterwulghe, Jean Saint-Geours, Maria Miller, Roy Parizat; the *Macroeconomics, Trade, and Investment Global Practice*: Martha Licetti, Roberto Echandi, William Gain, Willem Douw, Ankur Huria, Ian Gillson, Paul Brenton, John Keyser; the *International Finance Corporation*: Niraj Shah; and the *Multilateral Investment Guarantee Agency*: Nkemjika Onwuamaegbu. Overall guidance was provided by Juergen Voegelé, Martien van Nieuwkoop, Simeon Ehui (*Agriculture Global Practice*), Alfonso Garcia Mora, Najy Benhassine (*Finance, Competitiveness, and Innovation Global Practice*), Tatiana Bogatyreva (the *International Finance Corporation*), and Laurence Carter (*Infrastructure, PPPs, and Guarantees Group*).

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FOREWORD

By some estimates it could cost as much as \$4.5 trillion a year to meet the Sustainable Development Goals (SDGs). Today, total official development assistance is about \$140 billion a year worldwide. Philanthropists provide another \$4 billion. To achieve the SDGs, we need to move from billions in development assistance to trillions in investment of all kinds: public and private, national and global. To make that possible, it will be critical to put our efforts into attracting private sector investment and making sure it works for developing countries and poor people.

As we plan to maximize financing for development (MFD), we ask a very straightforward question: How can we increase resources for developing countries to provide the goods and services their people need, while minimizing the burden of public debt? Within the World Bank Group, we are asking this question across every project and every sector, including in agriculture. Improving the performance and transformation of agricultural value chains will be crucial to end poverty and hunger, boost shared prosperity, and steward the world's natural resources.

Globally, over 80 percent of the poor live in rural areas and the majority rely on agriculture for their livelihoods. While some of these poor people will migrate to urban areas by 2030, most will not. Their income gains will, therefore, need to come from activities in rural areas, and most of those activities are in agricultural value chains comprised of

farmers, input suppliers, processors, traders, distributors, and marketers.

This report provides important details on maximizing finance for development in agricultural value chains. It highlights financing gaps, identifies a range of potential funding sources, and suggests possible actions to help crowd-in more private investment, while optimizing the use of public resources. The recommended actions are aligned with the aim to address the market failures that lead to inadequate levels of privately provided goods and services to achieve global development goals.

Implementation of MFD in agricultural value chains will require an approach to diagnostics that is more oriented to the private sector, as well as structured, inclusive public-private dialogue to help inform the design of a robust reform and investment program.

The World Bank Group is strongly committed to this agenda and to working with partners to maximize finance in agricultural value chains, without which many of the SDGs cannot be achieved.



Jim Yong Kim
President, The World Bank Group

Key messages:

- Current levels of investment in agricultural value chains are insufficient to achieve key development goals including ending poverty and hunger, boosting shared prosperity through more and better jobs, and better stewarding the world's natural resources by 2030.
- Crowding-in private investment to help achieve these goals and optimizing the use of scarce public resources will be needed, as will the continued promotion of good governance and environmental and social sustainability.
- Sources of finance for private sector investments in agricultural value chains are expanding. Sources include own-savings, local and international banks, value chains actors, impact investors, development financing institutions, private sector foundations, and agricultural investment funds. Increasing private sector investment and associated financing will require identifying and understanding market failures currently leading to the sub-optimal private provision of goods and services needed to achieve key development goals.
- Market failures are often exacerbated by a poor enabling environment for the private sector that will need to be improved for all private sector actors in agricultural value chains—farmers, who are by far the largest current investors; input suppliers, traders, processors, distributors, and marketers—including financial services providers.
- Where the private sector is already investing in agricultural value chains, promoting responsible investment can help increase development impacts. Crowding-in more private investment requires increasing the space for private sector activity, improving the policy and regulatory environment, and considering options for using public financing to improve private incentives and to reduce transaction costs and risks, including blended finance solutions. While these actions can help induce more private investment, there is still a critical need for public resources to finance essential public goods and services such as human capital, agricultural research, and complementary public infrastructure.
- Prioritizing country level actions can be informed by private-sector-oriented diagnostics as well as by active and effective public-private dialogue mechanisms to define a reform and investment agenda that ensures impact. And as the performance of agricultural value chains are also dependent on other sectors such as water, energy, and infrastructure, engagement and co-ordination across multiple ministries and agencies will be needed.

The four sections of the paper focus on the **development outcomes** sought; why **financing** is important, including financing needs, the financing landscape, and constraints; actions to **maximize** finance for development; and **implementation**.



Development outcomes to be achieved

The starting point of Maximizing Finance for Development (MFD) in agricultural value chains is to clarify the development outcomes sought.

The world has set ambitious Global Sustainable Development Goals (SDGs) to be achieved by 2030.¹ Reflecting these, an earlier World Bank Group (WBG) publication on *Ending Poverty and Hunger by 2030: An Agenda for the Global Food System* indicated that “the world needs a food system that can feed every person, every day, everywhere; that can raise real incomes of the poorest people; that can provide safe food and adequate nutrition; and that can better steward the world’s natural resources. Urgently, we need a food system that is more resilient and that shifts from being a major contributor to climate change to being part of the solution.”² Significantly more progress will be needed to achieve these development outcomes.

- **Feeding every person, every day, everywhere with safe food and adequate nutrition.** Globally, 815 million people are still not getting the minimum dietary energy needs. This number has increased in recent years due to conflict, droughts, and floods.³ More than 2 billion people are deficient in key vitamins and minerals⁴ that are necessary for growth, development, and disease prevention. At the same time 2 billion people are overweight and obese. Two-thirds of obese and overweight people live in developing countries—a number that is increasing over time.⁵ By 2050 there will be almost 90 percent more people to feed in low-income countries than in 2015 and 30 percent more people globally.⁶
- **Ending poverty.** Globally, 767 million people live on less than \$1.90 per day, 80 percent live in rural areas and 64 percent

work in agriculture.⁷ By 2030, some will migrate to urban areas, but most will not, and the rural population in less developed regions will increase slightly. Most of the income gains needed to end poverty by 2030 therefore will need to come from activities in rural areas. About half the global poor live in Sub-Saharan Africa, while one-third live in South Asia. Lifting these people out of extreme poverty will require average income gains of at least 60 percent in Sub-Saharan Africa and at least 30 percent in Asia.⁸

- **Providing more and better jobs, and boosting shared prosperity.** Over the next 15 years, about 1.6 billion people will reach working age in low and middle-income countries.⁹ Automation and the digital revolution are driving productivity and income growth, but also threaten significant job losses, especially in developing countries. Sustaining and improving the quality of self and wage employment of the billions of people already working, and creating new jobs to absorb those reaching working age will be a significant challenge. The food system currently contributes a significant share of jobs in all countries with the potential to create new jobs in growing value chains.
- **Better stewarding the world's natural resources.** Current global food production practices are unsustainable. Agriculture and land-use changes already contribute about 25 percent of greenhouse gas emissions. Projecting past trends forward, agriculture and other land use changes alone will comprise 70 percent of total allowable emissions across all sectors by 2050 to achieve the target limit

for global temperature increases at only 2°C.¹⁰ Growing food today uses 70 percent of the global freshwater, a resource that is becoming increasingly stressed. A third of the world's largest aquifers are already being rapidly depleted.¹¹ The annual cost of land degradation due to land use/cover change and the use of land degrading practices on crops and grazing land is estimated at about \$300 billion per year.¹² Shifting to a more sustainable production system will be needed to end poverty and hunger.

Opportunities

Urbanization and the shifting composition of diets opens new market opportunities for private sector actors all along the value chain. By 2030, the number of people living in urban areas is projected to increase by 68 percent in low income countries, and by 31 percent in middle income countries.¹³ Both represent about a 7.5 percentage point increase in the urban share of the population.¹⁴ At the same time, rising incomes are driving a “dietary transition” in many low and middle-income countries. The transition often features a shift in diet composition with a reduced caloric share of staple cereals and increased consumption of animal products, vegetable oils, fruits and vegetables. This transition also includes increased consumption of processed foods and increased out-of-home consumption. The growing urban population and changing composition of diets bring significant new opportunities for farmers, processors, and distributors. For example, urban food and beverage consumption is projected to grow by about \$400 billion by 2030 in Sub-Saharan Africa alone.¹⁵

New technology is shaping how agricultural value chains are organized, offering new opportunities and some risks.

Technology and innovations are creating new opportunities to lower costs, to raise incomes, and to support entrepreneurship in agricultural value chains. Emerging technologies driven by the Fourth Industrial Revolution include: digital building blocks such as big data, artificial intelligence, and blockchain; new physical systems such as automation, robotics, and additive manufacturing; and advances in science such as new energy technologies and genomics that all offer significant opportunities for the food system.¹⁶ While some value chains are getting longer with more geographical distance between producers and consumers, some are also getting shorter with fewer intermediaries via digital e-commerce platforms that link small entrepreneurs in rural areas with national and global markets. These digital platforms are helping create ‘matching markets’ which may become a more prominent feature in agricultural value chains. This has implications for the public sector to make information/data more available to enable the emergence of these matching markets. Rapid technological change also introduces risks that some public and private investments may become redundant, or ‘stranded assets’, as new technologies provide alternative solutions. Collection, use, and control of data on private individuals also raises privacy issues.

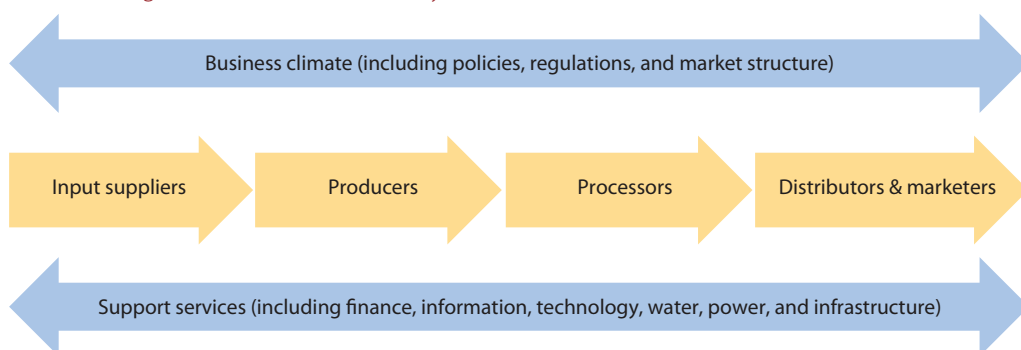
Characteristics

Agricultural value chains, in a broad sense, are comprised of farmers, input suppliers, traders, processors, distributors and

marketers in a set of interlinked activities that work to deliver higher quality and higher value products to meet consumer demand. There are several characteristics of agriculture and broader agribusiness that differ from other sectors such as infrastructure, education or health that have implications for maximizing finance to achieve the development goals. Agricultural value chains:

- **Are driven by small and large-scale private actors.** Agricultural production is a private sector activity comprised of about 450 million private smallholder farmers and many large-scale producers. In low- and lower-middle-income countries, 95 percent of all farms are smaller than 5 hectares. These small farms occupy almost three-quarters of land in low-income countries and two-thirds of land in the lower-middle-income group.¹⁷ While smallholders include subsistence farmers, they also include commercial producers who sell in unstructured local markets, and those who sell in more organized markets often under contract with buyers.¹⁸ In high-income and upper-middle-income countries larger farmers dominate. Many productive off-farm activities in agricultural value chains in developing countries are undertaken by small and medium scale enterprises (SMEs), as well as by (fewer) large firms.
- **Need an entire value chain ecosystem to thrive.** Producers and consumers are connected through a value chain, which is often long, import dependent, and can be potentially inefficient. These chains include many different stakeholders (figure 1) and the performance of one segment is

FIGURE 1: Agricultural value chain ecosystem



dependent on the performance of other segments. While each segment of the value chain can have unique constraints, there is a set of enabling conditions such as the business climate (including policies, regulations, and market structure) and support services (including finance, information, technology, water, power, and infrastructure) that are common to all segments and all value chains in the sector. Addressing the entire ecosystem is therefore indispensable to creating markets and to improving the performance and transformation of value chains.

- **Have high transaction costs and risks.** The spatial dispersion of producers and consumers; lags between input application and harvest; sensitivity to weather extremes, pests and disease; variable perishability and storability of agricultural

products; and political sensitivity of basic food staples makes agricultural markets prone to high transaction costs and significant production, market, climate, and enabling environment risks.¹⁹

Developing an effective approach to maximizing finance for development in agricultural value chains therefore requires:

(i) ensuring that financing benefits small-holder producers as a key pathway to ending poverty and hunger, and that financing supports SMEs and job creation along the value chain; (ii) addressing the entire ecosystem including the business environment and support services needed to make agricultural value chains thrive; and (iii) managing transaction costs and risks. These require an understanding of the nature and extent of market failures and the associated roles of the government in addressing them.



Financing Needs, Sources, and Constraints

There are significant financing needs.

While estimates vary on the extent of additional financing needed in agriculture and food security to achieve some SDGs, all estimates indicate that current levels of investments are inadequate.²⁰ The food and agriculture-related UN agencies estimate that ending poverty and hunger requires additional financing in agriculture and rural development of \$140 billion per year. Of this \$140 billion, \$50 billion per year is needed from the private sector, primarily in on-farm and agro-processing investments and \$90 billion per year is needed from the public sector for public goods such as agricultural research and rural infrastructure of a public nature that is economically justified.²¹ Achieving development goals beyond ending poverty and hunger would require even more additional financing. Access to finance by farmers, particularly smallholders and to some extent by agribusiness SMEs, is often

cited as key impediments for the growth and transformation of agriculture in emerging markets.

While there are substantial additional public financing needs, significant gains can be made in improving the quality of public spending.

Development impacts from improving the composition of agricultural public spending can be larger than from increasing public spending with no change in composition under certain conditions. For example, earlier analysis on rural Latin America showed that reducing the share of private good subsidies, with an increased share of spending on public goods, has significant positive effects on rural per capita income growth, the environment, and poverty reduction.²² Similarly, more recent analysis in Sub-Saharan Africa indicates that rebalancing the composition of agricultural public spending to higher return public goods could

yield significant payoffs.²³ Recent analysis of agricultural support in the European Union (EU) found that farmer support that is decoupled from production of specific commodities, and support for rural development are associated with higher agricultural labor productivity and employment as well as with lower poverty rates than coupled farmer support that has conditions on the production of specific commodities.²⁴ Shifting away from coupled farmer support in the EU since the mid-2000s also had a positive environmental impact. Fertilizer use declined together with agricultural greenhouse gas emissions while average cereals yields increased.²⁵ There is significant scope for improving the composition of public spending. For example, across 50 developed and developing countries, \$210 billion per year was provided in direct budgetary payments to producers across various criteria such as the type of outputs produced and inputs used. In addition, market price supports in the form of regulated prices that keep domestic agricultural prices above world prices equated to a producer support equivalent of \$375 billion per year for the 2013–15 period.²⁶

Overseas development assistance (ODA) for agriculture remains essential, particularly in the poorest countries. ODA plays an essential role in development financing, especially in countries with less access to alternative sources of financing. ODA has several characteristics including concessionality, stability and predictability, availability for core public expenditures, and linkages with knowledge and experience of projects and programs that have been effective elsewhere that make it the best source of external capital for development.²⁷ There is scope to

further enhance these attributes. ODA for agriculture declined sharply from the 1980s to mid-2000s from 18 percent to less than 4 percent of total ODA and more than halved in real absolute terms. However, since the mid-2000s, with increasing concern about the neglect of agriculture²⁸ and the subsequent world food price spikes, ODA to agriculture almost doubled from 2005 in both its share and absolute amount to about \$13 billion in annual commitments.²⁹ The increase still falls short of the needs.

Despite large amounts of climate finance mobilized globally, allocations for agriculture, forestry, and other land-uses have so far been disproportionately small. As well as being a significant contributor to climate change through its high share of greenhouse gas emissions, agriculture itself is highly vulnerable to climate change. Despite the high need for climate adaptation and mitigation in the sector, agriculture, forestry, and other land use changes have been allocated a small share of climate finance mobilized globally. However, the recent COP23 agreement to initiate a workstream on agriculture offers prospects for larger future allocations of climate finance for agriculture.³⁰

There is a broad range of private investors in agricultural value chains that can help fill the financing gap. Crowding-in private investment is needed to help accelerate progress towards ending poverty and hunger, improving jobs and shared prosperity, and ensuring more environmentally sustainable agricultural value chains. There are a range of domestic and foreign private investors that often invest in different segments of the value chain.

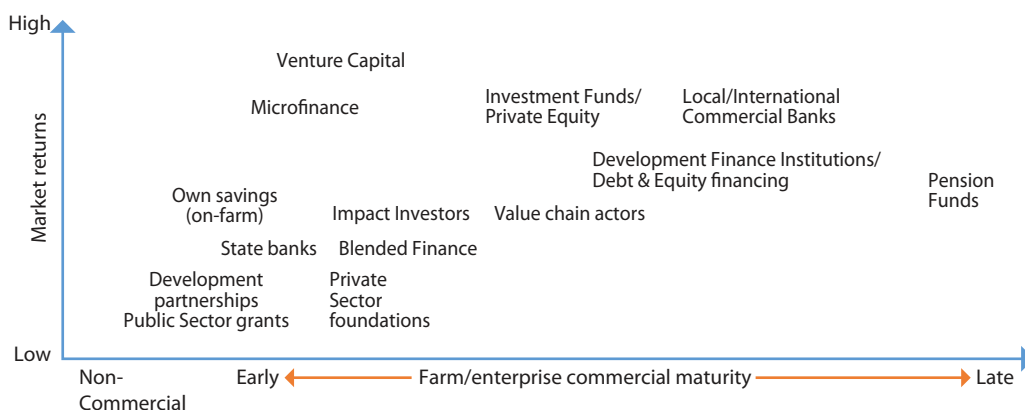
- ***Farmers are by far the largest private investors in agriculture*** with on-farm investments being more than three times as large as all other sources of public and private investment (public, ODA, and foreign direct investment) in low- and middle-income countries.³¹ In addition, increases in on-farm capital investments are associated with reductions in hunger.³² Farmers must therefore be central to efforts to increase private investment in the sector with a view to accelerating progress towards development outcomes. Provision of public goods such as research and extension, rural infrastructure, and secure land tenure is often essential to stimulate more on-farm investments.
- ***Input suppliers, traders, processors, distributors, and marketers*** take the form of both domestic and foreign private investors. Unfortunately, information on the extent of domestic private investments in these aspects of the value chain is less available than information on foreign direct investment (FDI) which itself is

fairly limited. The majority of FDI flows to agriculture have gone to upper-middle income and high-income countries.³³

The landscape of private sector investor financing in developing countries has expanded providing a range of working capital, and longer-term finance options. New technologies are also reducing transaction costs and making loans less costly. Formal financial institutions including microfinance institutions, commercial banks, and social/impact investors account for about 25 percent of the supply of finance to smallholders. Informal and community-based financial institutions account for 45 percent and value chain actors account for 30 percent.³⁴ Value chain actors such as input suppliers, traders, processors, distributors and marketers also access finance from various sources, which together with producers, reflects an expanding landscape of financing sources (figure 2).

- ***Own savings.*** Household savings are currently the main source of financing for farmers in low income countries. For

FIGURE 2: Landscape of financing sources for private sector actors in agricultural value chains
Illustrative expected market return and targeted enterprise maturity by source of financing



example, a study of four African countries (Malawi, Nigeria, Tanzania, and Uganda) shows crops sales and cash from non-farm activities to be the dominant sources of financing for purchasing agricultural inputs as an average of only 3–11 percent of farmers use formal or informal credit for these purchases.³⁵ Fewer than 15 percent of smallholders have access to formal savings accounts.³⁶ On average, farmer use of credit in the poorest countries is very low.

- **Informal and community based financial institutions.** These are often groups that are collectively owned and managed by members. They mobilize savings from individuals and provide short-term loans to members. They operate at the community and village levels and include savings and credit cooperatives, rotating savings and credit associations, and village savings and loan associations.
- **Value chain actors.** Different segments of the value chain also provide financing to other segments. For example, processors

provide credit to commercial smallholder farmers from whom they purchase needed products. Similarly, input providers provide credit to smallholder farmers to use their products and off-takers provide financing to intermediate SMEs. The financing arrangements range from informal to formal purchasing agreements. Value chain actors account for about 30 percent of the supply of finance to smallholder farmers (table 1)

- **State banks.** State, agriculture, and development banks still account for about two thirds of lending through financial institutions to smallholder farmers, predominantly in Asia (table 1).
- **Microfinance institutions.** Microfinance provides access to insurance or credit without formal collateral and has opened access to loans for millions of poor people, especially women. However, microfinance has not reached most agricultural activities except for high turnover activities such as small livestock and horticulture.

TABLE 1: Source of Smallholder Farmer Lending in Sub-Saharan Africa, South and South-East Asia and Latin America

Source of Smallholder Lending	Share (%)	Source of lending by formal financial institution	Share (%)
Formal financial institutions	25	State Banks	67
Value chain actors	30	MFIs	22
Informal & community based financial institutions	45	Commercial banks	7
		Social lenders	3
		NGOs	<1

Source: Dalberg, *Inflection Point: Unlocking growth in the era of farmer finance*, 2016.

- **Local and international commercial banks.** Overall domestic credit to the private sector provided by the banking sector varies significantly ranging from 112 percent of GDP in upper middle-income countries to 21 percent in low-income countries in 2016.³⁷ Agriculture comprises only a small share of banking sector loan portfolios in developing countries and loans are predominantly short-term.
- **Impact investors.** Impact investors seek a combination of market returns and social impacts. They generally accept lower than market financial returns in exchange for higher than market social returns. Equivalent to about \$8 billion, about 7 percent of impact investments globally are in the food and agriculture sector with an annual flow of investments of about \$1.5 billion per year.³⁸ While less than half of these investments are currently in developing countries, this share is projected to increase.
- **Development finance institutions.** Many development finance institutions provide financing for public sector investments as well as matching grants to smallholder producers (such as IDA/IBRD, the International Fund for Agricultural Development, and regional development banks). Several such as the International Finance Corporation (IFC) provide direct loan and equity financing to the private sector.
- **Private sector foundations.** Philanthropic investments from private sector companies and individuals have increased significantly over the past decade.
- **Agricultural investment funds.** There is a range of agricultural investment funds

that pool investor resources (that could potentially include resources from pensions funds) into a financial portfolio for investments in agricultural value chains. These funds include private equity, venture capital and pension funds. The financial instruments commonly used by these funds include private equity, debt, and guarantees. A recent analysis of 30 investment funds specialized in agriculture indicated they had approximately \$2.6 billion under management.³⁹ Venture capital for agricultural technology start-ups is becoming a bigger part of financing the innovation ecosystem.

- **Blended finance.** Provided by various actors, blended finance refers to a package comprised of concessional funding provided by development partners and commercial funding provided by a financier. Blended finance can provide financial support to high-impact projects that would not attract financing on strictly commercial terms because their risks are high and their returns are either unproven or not commensurate with the level of risk. Blended finance solutions can be structured as debt, equity, risk sharing, guarantee products, and performance-based incentive structures with differences in rate, tenor, security, or rank to mitigate risks and support projects that address some kind of market failure or unfavorable market conditions.

If more private sector investment is needed to end poverty and hunger why is it not already happening on a larger scale? High levels of direct public participation in markets can leave little space for private sector activity. While withdrawal of public sector

dominance in markets is a necessary condition for private sector investment, it is not a sufficient condition, as reflected by the often slow subsequent private sector response.⁴⁰ The earlier World Development Report 2005 *A Better Investment Climate for Everyone* documented the significant impact of a better investment climate on private sector investment. Improving market infrastructure, security of property rights, approaches to policy and regulatory reforms, including their consistent and effective enforcement, and the efficient functioning of finance and labor markets lies at the heart of documented investment growth in response

to investment climate reform.⁴¹ Widening the space for private sector activity, increasing private sector (farmers, input suppliers, processors, and distributors/retailers) incentives to invest, and reducing transaction costs and risks can all help increase private sector activity and investment in agricultural value chains. In addition to improved risk/return profiles of investments, increasing private finance in agricultural value chains from the various sources highlighted above can be facilitated by improved risk management mechanisms, tools, and financial infrastructure. More detail on these aspects are provided in the next section.





Maximizing finance for development

Maximizing finance for development (MFD) requires crowding-in private resources to help achieve development goals, optimizing the use of scarce public resources, promoting good governance, and ensuring environmental and social sustainability.⁴² With significant financing gaps to achieve development goals, increased attention is needed on these aspects. Without private sector investment or improvements in the quality of public spending, development goals will not be achieved. A key consideration is whether there is a sustainable private sector solution that can substitute for public expenditure and contingent liabilities, and whether there is an enabling role for the public sector. In the context of agricultural value chains, it may be helpful to determine this through a sequence of questions that also help to systematically lead to those actions that are more clearly and appropriately public. These embody the overall

MFD approach being applied systematically throughout the WBG. The sequence of questions include:

- **Is the private sector investing in agricultural value chains?** If yes, then try to ensure responsible investment to improve development outcomes.
- If no, is it because of **limited space for private sector activity** created by restrictions to competition or public sector dominance in input and output markets? If yes, then try to increase the space for private sector activity.
- If no, is it because of **policy and regulatory gaps or weaknesses?** If yes, then address policy and regulatory gaps to improve private incentives and reduce transaction costs and risks.
- If no, can **public investment help crowd-in private investment?** If yes, then

identify the set of public financing/investments that improve private incentives and reduce transaction costs and risk.

- If no, then **fully fund with public resources (for public goods and services)**.

Each stage in this cascade of questions clarifies roles of the public and private sectors in a sequencing intended to systematize the design and thinking around activities to maximize finance for development, regardless of whether these activities address broad sectoral transformation, development of specific value chains, or project-specific objectives. There will be as different a set of answers and associated actions as there are of starting points around the precise ‘it’ in the question: ‘Is the private sector doing *it*?’ (figure 3). That is, one does not expect the same answers to the questions in figure 3, and the associated public/private divide, when the ‘*it*’ is ‘investing in value added processing plants’ as when the ‘*it*’ is ‘integrating smallholders’. After clarifying the precise objective of the MFD inquiry, answering each question helps to identify gaps and associated public and private roles and is not intended to be explicitly binary in nature. A ‘yes’ may only identify a part of the private sector potential at that level and movement to the subsequent levels is needed to ensure a complete assessment of all questions around MFD and the roles of the public and private sectors. Once these roles are understood, actual implementation of resultant public policy and regulatory changes and public investments need not be sequential. Indeed, they are likely to be simultaneous or may be multi-staged, but the treatment of the question at its origin can be well served by a sequenced consideration of the

questions and potential actions reflected in this Cascade Approach (figure 3).

Understand the underlying cause of market failure. The private sector will only invest if it is profitable to do so. Ex-ante analyses and assessments are needed to answer the questions in figure 3. A key basis is to identify the cause of market failures that result in a socially sub-optimal private sector supply of goods and services i.e. the extent to which the current pricing mechanism and associated supply account for all costs and benefits. Mispricing can lead to inefficiency in the allocation of resources. A justification for public policy and investments is to address these market failures. However, if the underlying cause is not well understood, government responses often target the symptoms rather than identifying and addressing the underlying causes. Misdirected government policy, regulations, and spending can often exacerbate a market failure and further reduce private sector supply of underprovided goods and services. Addressing only the symptoms tends to lead to unsustainable government responses, such as through inefficient subsidy programs.

While not exhaustive, underlying causes of market failure include: (i) environmental and social concerns (linked to the first block of potential actions in figure 3 on “responsible agricultural investments”); (ii) concentrated market power, and the reduced competition effects of direct government participation in markets (linked to the second block of potential actions on “increasing space” through increased competition that often involves reduced government participation in markets); (iii) public policies and regulations that exacerbate market failures rather than

FIGURE 3: Maximizing finance for development in agricultural value chains



resulting in a more optimal private provision of goods and services (linked to the third block on the “policy and regulatory environment”); (iv) high transaction costs and risks (linked to the fourth block on “using public investments to reduce private sector transaction costs and risk); and lack of public goods and services (linked to the fifth block on “invest in public goods and quasi-public goods and services”). While the fifth block on public investments is at the end of the sequence of questions in figure 3 it may be no less important for stimulating private investment particularly in low income countries. The relative importance should emerge from ex-ante analyses and assessments.

Actions to promote responsible food and agriculture investments

Strengthen country capacity to assess and mitigate/regulate environmental and social risks. There has been rising interest in larger-scale investments in agricultural value chains including in agricultural land that led to global concerns about forced land acquisitions and “land grabs”. Findings from earlier

analysis indicated demand for agricultural land is growing, particularly in Africa, Latin America, and Southeast Asia.⁴⁴ The rising interest provides significant opportunities but also poses considerable risks. The governance environment in which land acquisition is happening is often weak. Traditional users’ rights are often overlooked or abused with little or no consultation with communities affected and with little transparency. This calls for increased support to improve the local capacity of land tenure governance; apply appropriate safeguards to protect the rights of the poor, especially women; to increase the transparency of land transactions; and to improve the capacity for assessing the technical, economic, environmental, and social merits of potential agricultural investments involving large tracts of land. There are several recognized standards established for promoting responsible agricultural investments such as the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries, and Forests and the Committee on World Food Security (CFS) Principles for Responsible Investment in Agriculture and Food Systems (box 1).

Promote private sector alignment with the principles of responsible investment.

BOX 1: CFS Principles for Responsible Investment in Agriculture and Food Systems

Responsible investment: (i) contributes to food security and nutrition, particularly for the most vulnerable; (ii) contributes to sustainable and inclusive economic development and poverty eradication; (iii) fosters gender equality and women’s empowerment; (iv) engages and empowers youth; (v) respects tenure of land, fisheries, and forests, and access to water; (vi) conserves and sustainably manages natural resources, increases resilience, and reduces disaster risks; (vii) respects cultural heritage and traditional knowledge, and supports diversity and innovation; (viii) promotes safe and healthy agriculture and food systems; (ix) incorporates inclusive and transparent governance structures, processes, and grievance mechanisms; and (x) assesses and addresses impacts, and promotes accountability.

Source: CFS Principles for Responsible Investment in Agriculture and Food Systems.

The CFS Principles for Responsible Investments in Agriculture and Food Systems and other principles based standards have been developed to mitigate the environmental and social risks associated with large-scale, agriculture-based investments. Many multi-nationals have also developed their own internal policies/standards to avoid reputational risks. Development partners including the WBG and other stakeholders have a key role to play in supporting implementation of the Principles. This includes supporting efforts to strengthen the business case for public and private sector actors, to facilitate cross-agency collaboration on research, advocacy and monitoring and evaluation, and to foster policy dialogue at the national/regional levels. In addition, with the rising triple burden of malnutrition including energy deficiency (hunger), micronutrient deficiency (hidden hunger), and excessive net energy intake and unhealthy diets (overweight/obesity), nutrition-sensitive product development and food markets becomes an increasingly important principle for responsible investment. Educating consumers to make sound food choices related to nutrition, sustainable production, and labor practices can help reward companies respecting these aspects.

Support inclusive business models to improve linkages among smallholders and firms of all sizes. Linking smallholder farmers via outgrower schemes through contract farming operations has shown impressive results. Designing support for producer organizations that are based on end market realities has been equally successful. The 15-years of experience with the productive alliances model across 10

countries in Latin America shows it is possible to increase productivity, market integration, and incomes of smallholder farmers through inclusive approaches.⁴⁵ These schemes have gained prominence as a business model that can benefit both the producers and off-takers, which include procurement companies and direct processors. Such schemes can (i) improve producers' access to markets, finance, infrastructure, and improved growing techniques and technologies; (ii) enhance the off-takers access to land, labor, and quality produce; and (iii) have positive direct community based social and environmental development impacts.⁴⁶ Similarly, there are significant gains that can be made from supporting linkages between agro-processing SMEs and larger enterprises. Meta-analysis of a large cohort of linkage programs demonstrated that such projects often result in significant revenue growth for participating SMEs, new SME job creation, and the creation of lasting commercial relationships that outlive the project period.⁴⁷ There can be associated risks in inclusion efforts that include: overdependency, exploitation of power differences, entrenchment of inequalities, lower than expected production, and side-selling. The risks need to be mitigated through careful design and implementation to ensure producers and off-takers maximize mutual gains through this inclusive approach. Although this contracting model is clearly driven by the private sector, there is a role for the public sector to ensure contracts and agreements between parties are fair, transparent and market driven as well as to support the capacity of smaller actors to engage gainfully and pragmatically in commercial agricultural value chains.

Actions to increase space for private sector investments

Support competition and associated policy reform, including of state owned enterprises.

Promoting effective competition in agricultural markets is key to unlocking private sector investments with development impact. Government interventions can unintentionally stifle competition in agricultural value chains by restricting entry, facilitating collusion, creating an unlevel playing field, or crowding-out private sector activity altogether with state owned enterprises (SOEs). Besides noted inefficiencies and fiscal burdening, SOEs—like most protected firms—lack incentives for productivity enhancement and can raise prices that affect competitiveness and investment along the value chain.⁴⁸ Furthermore, it is often the poorest households that are hit the hardest by the resulting increases in food prices from poor competition. Indeed, tackling such anti-competitive market rules can lead to significant reductions in poverty rates.⁴⁹ Agricultural producers and small enterprises can also benefit from opportunities created by more competitive value chains and agribusiness inputs.⁵⁰ To achieve this, governments must strengthen antitrust rules and enforcement. In Colombia, such reforms allowed the Colombian Competition Authority to break up a cartel of 14 firms which had colluded to block sugar imports and had led to price overcharges of 45 percent for processors.⁵¹ It is also important to support market and sector regulation that is pro-competitive to spur private sector investment in a sector that has such important linkages with

smallholders. Removing incumbents' powers to veto the licensing of new tea factories in Kenya enabled the entry of new competitors and facilitated investment in the sector, allowing farmers to receive 70 percent higher farm-gate prices.^{52,53} Finally, reforms that strengthen competitive neutrality can spur productivity and competitiveness for even the smallest of actors. In Honduras, a reform to level the playing field among fertilizer suppliers led to an increase of 340 percent in the number of registered fertilizers and up to 8 percent lower prices, which ultimately benefited 35,000 farmers.⁵⁴

Strengthen investment policy and dialogue to open space for global investment.

FDI can have a significant impact on development objectives, but reaping these potential benefits is not automatic. Sound investment policy is needed. Sound policies entail actions covering the whole investment cycle including: (i) a clear and targeted FDI strategy focusing not only on investment attraction, but also on facilitating the entry and establishment of investors; (ii) generating investor confidence to stay and expand their operations; and (iii) supporting the development of linkages between anchor foreign investments and the local private sector. Leveraging FDI in agri-processing sectors such as fruits and vegetables has enabled many developing economies in Latin America and Africa to link into global supply chains and build backward linkages to local firms and workers in host economies.⁵⁵ Survey data from Kenya, Ghana, and Mozambique show that both foreign investors and foreign agricultural suppliers provided assistance such as worker training, access to farm inputs, and advanced payments on contracts to firms in

their local supplier networks. FDI in floriculture in both Ethiopia and Kenya has led to impressive job creation with strong gender dimensions.⁵⁶ In these examples, trade and investment policies were found to have large effects. Governments can address investment policy and related regulatory barriers or gaps that deter the private sector from investing and decrease investors' confidence to engage. Introducing a national investment law based on good practice and implementing regulations is key for a country's ability to attract private investors. FDI entry in key sectors can create local linkages and fill gaps where governments and local firms do not have the capital or the 'know-how' necessary to deliver efficient or high-quality services in global value chain development. Finally, strengthening the institutional frameworks and capacities of governments is key to dealing with investor problems and to implementing sound investment policy that safeguards societal and environmental interests. This also includes institutional governance and implementation support of investment promotion agencies to allow for effective facilitation of private sector investment in key sectors of the economy. Targeted investment promotion has been most effective in increasing FDI flows to developing countries where the largest investment climate issues prevail.⁵⁷

Reduce government intervention in agricultural financial markets to open space for private financial service providers. State banks account for about two-thirds of lending through formal financial institutions to smallholder farmers. Government interventions to promote credit to agriculture often include mandatory lending quotas, directed lines of credit, interest rate caps and subsidies,

partial credit guarantee schemes, subsidized crop insurance, and grants. Despite good intentions, some of these measures do not achieve intended outcomes, hinder the sustainable supply of financial services for agriculture, and result in an offering that is in many countries well below the contribution of the agricultural sector to GDP. There is a need to reposition state financial support towards risk management instruments to increase private sector lending and bring commercial discipline to approving and collecting credit.

Actions to improve the policy and regulatory environment for private sector investment and to reduce the distortionary effects of public spending

Reduce the distortionary effects of public spending policies. While often well intentioned, public support programs to agriculture can be financially costly and hamper sustainability and growth. Price supports, input policies, production subsidies requiring production of specific commodities (e.g. coupled subsidies), or restricting land to the production of certain crops can limit crop diversification, induce economic inefficiency, compromise productivity and resilience through water and land degradation, and lead to high greenhouse gas emissions. Support programs have typically been directed to support staple grains. Consequently, farmers engage less in products that do not benefit from large support levels, which include fish, fruits, vegetables,

and pulses, even when consumer demand has increased. A more crop/commodity neutral or decoupled approach that crowds-in, rather than crowds-out, private sector activities in input and output markets is needed.

Improve incentives and reduce transaction costs

Understanding the profit and operational bases of private sector motivations is critical to the development effort. MFD, by definition, is concerned with the leveraging of private sector investment for broader societal and development gains. Improving the enabling environment for private sector investment has been closely associated with growth and massive poverty reduction in China, India and Uganda.⁵⁸ The channels are well-known: farmers are private sector actors; SMEs are found to be the dominant employer in off-farm sectors in developing countries; and the private sector overall accounts for the greatest share of jobs in developing countries. Furthermore, reforms that are friendly to the private sector reduce transaction costs for private firms and have served to lower food prices for poor consumers.^{59,60} The public sector, with support from development partners, has a strong role in improving incentives and reducing transaction costs for all sizes and types of firms.⁶¹ Key among these for agricultural value chains includes lowering trade costs, enabling policy frameworks for access to finance, improving regulatory regimes for input and output markets, and providing public goods that help with market access such as food safety frameworks and national quality infrastructure. Reducing costs through infrastructure investment and reforms to trade logistics can

also be fundamental to the profitability and attractiveness for investment in agricultural value chains with benefits felt by rural farm and non-farm actors alike. It is well documented that these benefits are felt most acutely by smaller firms and so these reforms can help foster inclusion.⁶²

Lower trade costs. Developing countries have a multi-trillion dollar agribusiness opportunity.⁶³ However, the private sector investment that is needed to realize this potential will not happen as long as markets remain segmented by tariffs, import and export restrictions, non-tariff barriers, and a lack of trade facilitation. It is widely recognized that trade policy is a key determinant of FDI⁶⁴ partly through its role in stabilizing the trading environment and thereby impacting investor confidence.⁶⁵ Gainful backward linkages with domestic firms are also more probable when barriers to trade are removed.⁶⁶ Even if the magnitude of an individual policy instrument such as a tariff is small, its impact can be magnified along the entire value chain.⁶⁷ The cost and time to get key imported inputs, to deliver products to market, or to deliver products to the next node in the value chain are important determinants of competitiveness. Generally, crossing borders can be costly and multiple crossings can entail multiple trade barriers. Reducing the direct costs associated with trade restrictions, streamlining regulatory compliance,⁶⁸ and reducing delays at the border can significantly help reduce costs and risks for private sector investment. Trade logistics to and from borders are equally important. It is estimated that every 10 percent increase in transport costs reduces trade by 20 percent.⁶⁹ These challenges are most

acutely felt in agriculture as transport costs are relatively higher for many farm products and weak storage and distribution infrastructure is especially costly for perishable goods. An additional one-day delay due to transport and customs issues can cause exports of time sensitive agricultural goods to decrease by 7 percent. Trade logistics practices also impact the cost of agribusiness. For instance, scanning fees in some African countries continue to be higher than global levels⁷⁰ and are levied even on bulk food products such as sugar, making exports more expensive and penalizing traders. Streamlining trade regulations and procedures can therefore go a long way in improving the investment climate for the agricultural sector.

Improve policies and regulatory regimes for input markets. In countries where large numbers of poor people continue to practice subsistence agriculture, inputs have often been provided via subsidy programs for social purposes such as safeguarding household food security and increasing incomes. Due to the political sensitivities associated with the distribution of subsidized inputs, it is usually difficult for the public sector to find an exit strategy. As a result, the largest barrier to private entry is often the presence of subsidized public competition, which crowds the private sector out of the market. In cases where private input suppliers have not been crowded-out, the cost and time to deliver products to users are important determinants of competitiveness and private sector viability. Infrastructure plays a critical role in determining the cost and time of supplying inputs to users, especially as the users of agricultural inputs tend to be large numbers of farmers distributed over

vast areas. Numerous studies have documented how logistics costs often compose a sizeable component of the final price paid by farmers for fertilizer. Costly logistics can reduce the attractiveness of fertilizer for many farmers and restrict market opportunities for inputs suppliers. Similarly, regulations can pose significant barriers to entry into the market, even though they may have been intended to prevent abuses as in the case of regulations governing the composition and/or safety of plant varieties, seeds, fertilizers, and crop chemicals. The high costs associated with compliance often mean, however, that the very regulations that are designed to protect purchasers can end up discouraging private suppliers thereby restricting availability of inputs in the market resulting in higher prices for users. Regulatory reform aligned with risk-based best practices can maintain the protective intent, and employing consumer protection law instead of overregulating input markets can help streamline compliance. Finally, regional harmonization of seed trade policies can enable distribution of seed across national borders, increase the size of potential markets, and boost the incentives for private sector investment.

Improve the policy and regulatory environment for agri-finance to promote financing through private sector institutions. A conducive enabling environment for the development of agri-finance markets should consist of regulations and policies that either leverage private sector lending while reducing direct government funding or maintain a level of government funding but increasing coverage. Public policies and legal/regulatory

reforms include those that: (i) enable the private sector to better manage risks (e.g. regulations on warehouse receipts, agricultural insurance, commodity exchanges, price derivatives, etc.); (ii) allow for the establishment of financial infrastructure in rural areas (e.g. regulations on credit bureaus, collateral registries, etc.); (iii) support the convergence towards market-rates and phase out interest subsidies and credit caps; (iv) avoid loan forgiveness and lending quotas; (v) facilitate the integration of different public and private agro-climatic information systems for financial risk analysis of agriculture and agribusinesses; and (vi) reform state-owned banks to operate with market criteria and level the playing field for the private sector. Considerations in improving the policy and regulatory framework for agri-finance should include “do no harm” policies and review distortive policies or policy weaknesses such as those mentioned above that can prevent private investments and financing to the sector.

Strengthen food safety systems to both reduce foodborne diseases, and improve market access and trade.

Food safety standards shape access to markets and therefore impact the ability of private sector agents of all descriptions—from farmers to exporters—to invest in and grow their food and beverage businesses. Technical assistance, particularly to smaller firms and actors, is critical for this growth to be inclusive. For example, public technical assistance to lychee farmers in Madagascar enabled certified producers to have better access to markets and higher prices.⁷¹ Similar assistance was critical to smallholder participation in horticulture markets in

Chile.⁷² Because of the upstream linkages to smallholders and the dominant role of the food and beverage industry in job creation globally, credible national quality assurance infrastructure and food safety regimes are critical to the development agenda. Reliable food safety systems not only relieve a large burden on public health, but they can also impact farm productivity, incomes,⁷³ trade,⁷⁴ consumer confidence, and ultimately investment and growth in agricultural value chains. Years of limited policy attention and underinvestment have stunted the development of national food safety systems and left many systems with weak foundations. These foundations need to be strengthened through sound science, trained human resources, and risk-based and enforceable regulatory regimes. A food safety culture that shares public-private accountability among governments, food business operators, and consumers is needed. Strengthening food safety systems includes, but is not limited to, changes in laws, regulations, and the approaches taken to ensure compliance with, and enforcement of, those requirements. Particularly important in this regard is reform towards a preventative and risk based approach as the basis for regulatory reform, decision making, control, and accountability for food safety. It also reduces significant compliance costs and enhances the attractiveness of agri-food value chain investments. The cost-effectiveness of risk based inspections is explained by the ability of inspection agencies and value chain operators to design any inspection scheme based on probability and assessment of negative effects of specific activities or products on public health, animal health, and welfare.

Reduce private sector investment risk

Ensure macroeconomic and political stability.

At a general level, macroeconomic stability and peace are key conditions for private enterprise development. In Sub-Saharan Africa, agricultural growth increased as macroeconomic conditions such as fiscal policy, monetary policy, and exchange rates improved in the 1990s.⁷⁵ Reductions in both high direct taxation of agriculture and indirect taxation through overvalued exchange rates improved farmer incentives to produce and invest.⁷⁶ Political changes and instability can disrupt local enterprises as they did for about 90 percent of firms in Nepal.⁷⁷ Conflict reduces human mobility, curbs access to agricultural inputs and market, increases theft of assets, and increases prices.⁷⁸ In the decade following the civil war in Mozambique, per capita incomes increased 70 percent compared with 4 percent in the previous decade. Agricultural value-added increased 60 percent.⁷⁹

Improve the stability and predictability of policies.

The reliability of policies (stability and uncertainty surrounding their implementation) has long been recognized as a factor affecting investment and growth. An environment characterized by unclear property rights, constant policy changes and policy reversals, uncertain contract enforcement, and high corruption translates into lower investment and growth.⁸⁰ Reducing uncertainty over land and water rights can increase on-farm investment.^{81,82}

Improve land tenure security and access to land. Land is a key productive asset and a source of livelihood for most

rural people, especially the poor, in low- and middle-income countries. Secure land rights can stimulate greater investment, contribute to higher productivity, and improve the functioning of land and financial markets. Land rights are also essential for poverty reduction and gender equity. Inadequate legal frameworks and weak institutional capacity can compromise achievement of these outcomes. Improving capacity and performance of land institutions, clarifying land policies, and streamlining processes to make them more customer friendly are often needed. In Sub-Saharan Africa, only about 10 percent of occupied rural land is registered.⁸³ In some settings, indigenous or customary land tenure systems provide secure tenure rights. In other settings with real and perceived tenure insecurity formal registration and certification can strengthen tenure security. Improving the functioning of land sales and rental markets can help improve access to land and increase allocative efficiency.

Shift public policies from direct agricultural support towards improving private sector access to risk management instruments for agriculture that can facilitate lending.

Agricultural finance is considered risky by financial institutions for two broad reasons. First, a lack of information and financial data makes it hard to evaluate the credit risk (probability of loan default) of farmers and small agribusinesses. Weak collateral makes it hard to recover losses when defaults happen. Second, in addition to the challenge of evaluating credit risk, agriculture finance faces systemic risks that can impact many farmers at the same time. Examples of such systemic risks are

production risks due to weather, pests, diseases, price risks, and market access risks. Furthermore, given that agricultural finance is considered risky, financial institutions only lend to those that have few risks or have the ability to effectively manage risks, resulting at times in their agricultural portfolio performing better, in terms of non-performing loans, compared to their non-agricultural portfolio. Effective risk management is based on the ability to assess risks and manage them. On the credit side, financial institutions increasingly use data and information from value chain players. Digitization of payments and transaction data (i.e. big data) along value chains provides information to assess credit risks that did not exist before. Credit bureaus are expanding their coverage to rural areas. Partial credit guarantee schemes that provide enough cushion and a collateral substitute for financial institutions by governments can increase lending to agriculture. There are an increasing number of risk-sharing arrangements amongst value

chain stakeholders such as lead buyers, input suppliers, banks, and farmers to spread risks and make transactions attractive. Agriculture and livestock insurance transfers production risks while price risk management instruments are used to reduce commodity price uncertainty. Warehouse receipts and other types of moveable collateral make collateral easier to liquidate when things go bad compared to reliance on land/rural real estate collateral (box 2).

Public investment to reduce private sector transaction costs and risk

Improve incentives and reduce transaction costs

Invest in public infrastructure based on clear private sector needs. Public investment can help crowd-in private investment. For example, public investment in large irrigation infrastructure such as dams and

BOX 2: Legal and regulatory frameworks for a warehouse receipts system

Commodity-backed finance using agricultural inventories is an important component to making agricultural credit and professional storage more accessible. More accessible credit and storage can contribute to food security by: (i) increasing local food processing capacity; (ii) reducing post-harvest losses; (iii) improving the quality of the goods stored under better conditions; and (iv) potentially improving incomes for farmers through a combination of lower post-harvest losses and better prices from delayed marketing. Warehouse receipts systems (WRS) enable warehouse operators to issue receipts as evidence that specified commodities of stated quality and quantity have been deposited at a particular location by named depositors. The warehouse operator holds the stored commodity in safe custody, and the depositor can use the receipt as collateral to borrow from banks. In most emerging economies, in addition to working with private sector financial service providers, ensuring the success of a WRS requires a dedicated legal and regulatory framework and a warehouse licensing and inspection authority. WBG support to government legal and regulatory reforms in Cote d'Ivoire, Ethiopia, Ghana, Kenya, Malawi and Senegal to introduce WRS have helped improve the integration of producers, traders, and processors into value chains by improving their access to professional storage and credit. Efforts in Kenya and Malawi have already resulted in approximately \$49 million of loans against receipts and have reached hundreds of thousands of farmers. There is additionally evidence of sharp decreases in post-harvest losses in Kenya.

Source: M&E results measurement of WBG warehouse receipts systems projects, and J. Coulter, and G. Onumah, "The Role of Warehouse Receipt Systems in Enhanced Commodity Marketing and Rural Livelihoods in Africa." *Food Policy*, 27:319–37. 2002.

canals can make it profitable for farmers to make small on-farm investments in water management and a wider range of production technologies. Rural roads can link production areas to markets. Agri-spatial solutions (e.g., agri-parks, agri-clusters, and agri-zones), can offer enhanced coordination and agglomeration effects to reduce logistical and transaction costs, to improve quality and food safety management, and to spur agribusiness development including the spread of agribusiness innovation. Agri-spatial approaches can support clients in meeting development objectives in job creation, farmer linkages, investment and growth, but only if these public investments are based on the carefully documented needs of the market in terms of location, services, and pricing. Together, these improvements deliver important development impacts that can support poverty reduction and foster shared prosperity. The horticulture cluster in the Senegal River Delta presents one such example. Through targeted policy interventions, infrastructure investments, and the attraction of a large private sector anchor investor, the government facilitated relocation of a failing horticulture cluster that was constrained by land and water scarcity and high logistics costs to a more conducive location that optimized logistics, capitalized on water and land resources, and fostered increased investment including for SMEs. As a result, the sector saw exports to Europe jump by 66,000 metric tons between 2007 and 2016 and attracted investment by more than a dozen new exporters. Agri-spatial solutions are not a panacea, however. Guidelines developed by the WBG support clients in assessing when and under what conditions agri-spatial solutions might be appropriate

and if so, how to design and implement them successfully and responsibly.

Invest in public inspections and quality assurance. Farmers increase investments in better seed, fertilizers, and other inputs when they trust the quality of these inputs. Public investment in inspection services for inputs agro-dealers and in labeling programs can increase farmers' trust and crowd-in more private investments. Quality assurance programs can increase demand for and trust in seeds produced by farm groups or local agribusinesses. Strengthened capacity of public laboratories to test farm soils, or food safety, can increase effectiveness of farmer investment and returns to agricultural extension and can address emerging issues as they arise.

Improve co-ordination to reduce transactions costs. Smallholder farmer inclusion in value chains is doubly constrained by scale: high production costs reduce farm competitiveness, while small production volumes combined with high geographic dispersion increase purchaser transaction costs. As a result, smallholders tend to be underrepresented in higher-value supply chains with negative effects on their income and growth potential. Agri-food firms have tried to secure product aggregation and supply through a variety of means including vertical integration and contract farming. A new generation of World Bank-financed projects, which are aimed at helping small-scale producers to reach product specifications required by markets on the basis of agreements between producers and private sector buyers, can help solve this scale and coordination failure. Productive alliance projects help organized farmers to produce and aggregate agri-food

products under the quality, quantity, and delivery specifications agreed with purchasers. By supporting this process, governments can leverage private sector participation upstream (input and technical assistance providers) and downstream (off-takers, agro-industries, wholesalers, and exporters) often attracting companies to places where markets are thin or non-existent. Impacts on farm household productivity and income has been registered throughout productive alliance projects.⁸⁴

Consider public-private partnerships:

Public-private partnerships (PPPs) can help bring private sector technology, expertise, and innovation in providing public services. The underlying principle behind PPPs is that through collaboration, public and private partners can achieve objectives that each could not achieve alone. A recent review of agricultural PPPs categorized four common types of partnerships, depending on whether their aim is: (i) to develop agricultural value chains, (ii) to conduct joint agricultural research, innovation, and technology transfer, (iii) to build and upgrade agricultural market infrastructure, or (iv) to deliver business development services to farmers and small enterprises.⁸⁵ Potential PPPs should demonstrate benefits above alternative modes of support such as direct public provision or privatization including any additional costs of building procurement and management capacity at appropriate levels to administer these partnerships.

Reduce private sector investment risk

Support political risk insurance for financial institutions and private investors.

Private investment in developing countries is sometimes deterred by political risks

including (i) currency inconvertibility and transfer restrictions (preventing earnings repatriation), (ii) expropriation (government takeover of assets, such as land, farm machinery, or food processing plants), (iii) war and civil disturbances (causing direct destruction of assets), and (iv) breach of contract (by governments and the contractual partners). These risks also significantly increase the cost of capital for investment in agriculture and related sectors, and some lenders are unwilling to extend credit in the absence of insurance for political risk. As a risk-mitigation tool, political risk insurance helps provide a more stable environment for investments into developing countries and helps unlock better access to finance. For example, in Zambia political risk insurance provided to multiple agribusiness enterprises has contributed to a significant increase in private investment.⁸⁶

Consider the use of ‘market pull incentive mechanisms’ to encourage the private sector to invest in supplying inputs and services to smallholder farmers and SMEs.

Pull mechanisms are innovative finance mechanisms that have been applied to international development projects in recent years. Pull mechanisms encourage innovation and the adoption of new technologies through results-based payments such as prizes that are typically paid out when certain objectives or milestones have been met. Such financing mechanisms have seen success in generating innovation and market-oriented solutions in other domains such as health care. Examples in agriculture include incentivizing the development and adoption of on-farm storage technologies for smallholder farmers, encouraging innovative distribution of a

breakthrough technology to reduce aflatoxin contamination, and building a market for new varieties of maize enhanced with vitamin A. Private sector partners are crucial to foster innovation and to create and expand new markets. Pull mechanisms can mitigate private sector risks in frontier markets to unlock new investment and foster private-sector-driven innovation to tackle complex development challenges. These mechanisms differ from traditional agricultural push mechanisms by which development partners address market failures through the financing of direct or indirect interventions.

Direct finance to private sector value chain actors. Direct private sector financing from public budgets includes matching grants, subsidizing start-up costs to open branches in rural areas, supporting credit lines for long-term funding, providing subsidies to agricultural insurance premiums, subsidizing technical assistance to financial institutions or agriculture cooperatives, etc. Careful analysis needs to be undertaken to ensure that no improvement in the policy and regulatory environment or the risk management framework can overcome the problems that these direct financing instruments intend to tackle.

Use public resources to invest in public goods and services

Not all needed investment in agricultural value chains can be provided by the private sector. The rationale for public financing includes avoiding economic inefficiencies resulting from market failure and reducing inequality in the distribution of goods

and services. Market failures occur when the market supplies a socially sub-optimal level of goods and service as market prices do not reflect all social costs and benefits. This mispricing can lead to inefficiency in the allocation of resources. An example is the under-provision by the market of public goods and services. These have two characteristics: (i) the consumption of the good or service by one person does not reduce availability of consumption by another person (nonrival) and (ii) it is not possible, or very difficult, to exclude anyone from consuming the good or service (non-excludable). Goods and services with these characteristics create a divergence between social and private returns and lead to under-provision by the private sector. Public financing can also help induce more equitable and often pro-poor development.

Invest agriculture public spending in public goods and services. Investments meeting the two characteristics of public goods and services (nonrival and nonexcludable) include (i) improved knowledge of agronomic practices that can be used over-and-over again, (ii) applied research developing biological technology such as improved open pollinated seeds as these seeds multiply and farmers may use their own seeds in future without repaying for them. Even though hybrid seeds allow private seed companies to recoup research and development costs from the farmer, the level and nature of private investment would be less than socially optimal as it would not consider broader benefits beyond farmers, such as lower consumer prices, and often has little relevance for smallholder farmers,⁸⁷ (iii) basic research underpinning applied research and (iv) livestock disease surveillance and veterinary services as large

outbreaks of zoonotic diseases such as avian influenza can have huge human public health impacts and result in massive loss of accumulated private capital held in livestock with severe impacts on livelihoods. Empirical evidence indicates that there is significant underinvestment in public agricultural research in developing countries⁸⁸ with Sub-Saharan Africa accounting for only about 5 percent of global public spending on agricultural research and development.⁸⁹ In addition, public investment in education and skills can help small-scale farmers and SMEs increase productivity and incomes and help them become more effective demanders of financial capital.

Support complementary public investment in other sectors. Investments in rural roads, energy and land markets and by other non-agricultural ministries can help enable the commercialization and competitiveness of agricultural value chains. Rural roads and

information (data) help to better link consumer demand with rural producers. The public sector has a role to play in making information/data available to facilitate digital matching markets that can help improve allocative efficiency. Electrification can help facilitate rural-based food processing and value addition while port infrastructure can facilitate exports. For example, in Vietnam road rehabilitation increased the variety of goods that households sold to market—primarily fruits, vegetables, and meat—and encouraged greater participation in trade and services. In Georgia, the construction and rehabilitation of roads increased the opportunities for off-farm and female employment.⁹⁰ While some of these sectors may be able to crowd-in private investment, for example for power generation and port infrastructure, they are subject to their own ‘cascade’ considerations of public and private investment that are beyond the scope of this paper.





Implementation

A more private-sector-oriented approach: The Cascade Approach (figure 3) not only yields the large spectrum of potential actions reflected in the previous section, but acts as an organizing framework for a more private-sector-oriented approach to diagnostics of both the sector as a whole, as well as of specific value chains. This is a question of diagnostic perspective, not necessarily a new diagnostic product: How would the private sector prioritize the long list of constraints and opportunities that data sources and analytics might point to? Which of the constraints represent appropriate business risks and costs? Which lie in the public sector's domain to resolve? Ultimately, does their resolution help maximize finance for development according to the logic of figure 3?

In practical terms, a private-sector-oriented approach to diagnostics implies that the

information generated by ex-ante assessments and data—like agricultural public expenditure reviews, business climate indicators, trade data, competition assessments, or 'value chain studies'—on constraints and opportunities needs to be prioritized by a broad set of consultations with the private sector. This calls for structured and inclusive public-private dialogue. Ex-ante assessments and government strategies alike can generate a long list of agribusiness opportunities which need to be vetted for practicality with the private sector. Private sector views on the most promising value chains can differ, sometimes significantly, from those of academics, donors, and even governments. A private-sector-oriented approach to diagnostics puts the private sector perspective together with the wide range of ex-ante assessments and analytics to establish what is currently competitive and what could be competitive through appropriate public

reforms and investments over a given time frame. This approach can help to more effectively leverage private investment for the short, medium, and long terms. The latter is particularly relevant in those cases where no immediate opportunity presents itself as in some contexts of fragility, conflict, and violence.⁹¹ Implementation of MFD therefore starts with this perspective and these tools.

Ex-ante assessments. There are a very wide array of assessments that can help answer the questions in figure 3. These assessments range from macro level analyses to studies of very specific segments of individual value chains. While this might seem a daunting amount of information, not all the desired ex-ante assessments exist for a given country and a desk review of what is known can also flag what yet remains to be understood in order to answer the questions in figure 3. Analysis on the quality of public spending, its current implementation performance, and the level of direct public activity in markets is important. Agricultural public expenditure reviews can help to enhance focus, quality, and the appropriate scaling of public investments in the sector. Much can be learned about the long list of constraints from multi- and sector-wide reviews as well as from thematic reviews undertaken on specific issues such as competition, transport, or food safety. Sector strategy documents, trade data, demographic and food market analyses, and value chain studies can yield a list of potential opportunities that can be used in consultation and vetting by the private sector. Governments can invest in sector-level diagnostics to understand their competitive positions and inclusive growth

options in agribusiness while paying special attention to linkages with SMEs and farmers by mapping out the constraints and opportunities for private sector investment. This requires not just ‘value chain studies’, but also gaining a better understanding of cross cutting constraints from the private sector’s perspective to unlock investment opportunities. These assessments are by no means exhaustive. The dialogue with the private sector will prioritize and frame the information in hand and will help to design impactful reform and investments to maximize finance for development.

Public-Private Dialogue. Sustainable adoption of an MFD approach needs to recognize that policy and regulatory reforms that are meaningful should involve dialogue and input from both public and private stakeholders. Understanding the underlying causes of market failure that are constraining greater private provision of goods and services is a critical first step. Government policy and regulation can exacerbate market failure and suppress private investment. By engaging private value chains actors, policy makers can more accurately understand their binding constraints and formulate the right policies to address them. Likewise, private sector stakeholders may need governments to help solve systemic issues they face.⁹² Setting up a safe, structured, and trusted environment through public and private dialogue is critical to offering stakeholders the opportunity to identify problems and suggest solutions that aim to reduce unjustified transaction costs and risks of doing business in the agribusiness sector. Public-Private Dialogue also provides a

platform for social and environmental aspects to be integrated as well as provides a forum for innovation and knowledge exchange.⁹³ In countries around the world, deliberate public-private dialogue in multiple agricultural value chains has led to the design of relevant and innovative policy and regulatory frameworks helping prioritize the most binding constraint to private sector investment. Public-Private Dialogue has also provided a platform for engagement across ministries and agencies, each with their different mandate, around common objectives for the value chain (box 3).

Reforms and investments. It is important to note that an MFD approach to diagnostics, and public-private dialogue more broadly, does not imply that the private sector has a *carte blanche* on defining the public sector's reform agenda, but rather such an approach calls for an integration of the private sector perspective. Once the questions in the Cascade Approach (figure 3) have been answered based on solid analysis and public-private dialogue, an impactful reform and investment agenda emerges. If the cascade was applied to the sector broadly,

the resultant agenda could unlock multiple sub-sector investment opportunities at once. At the value chain level the approach can point to immediate or medium-term investment opportunities for the private sector at large. Development partners, as one option, can directly support private investment through blended finance packages (box 4). Governments, supported by development partners, can make public investments that are well identified by the MFD process through either stand-alone investment project loans or loans that are accompanied with relevant policy and regulatory reforms as appropriate. Global best practices and models for linking smallholders and SMEs to commercial value chains can be made available and governments can access very specific technical assistance in areas identified as priority constraints to crowding-in private sector investment for the achievement of development objectives. At a more granular level, governments can invest in their capacities for strategic market segmentation and analysis to keep up with shifting market opportunities in a constant dialogue with the private sector around maximizing finance for development.

BOX 3: The Impact of Public-Private Dialogue

In Côte d'Ivoire, the WBG has been supporting inter-professional bodies (*associations inter-professionnelles*) and other actors in a public-private dialogue in the cashew sector since 2014. This dialogue in the sector permitted the joint identification of key constraints and reforms namely the need for stronger supply chain linkages to cashew producers in the post-harvest phase and the lack of access to finance by cashew processors of all sizes, particularly SMEs, potentially important for rural employment in these cashews growing areas. The solutions defined jointly by the public and private sector identified the need for a warehouse receipts system. The process, led by the Ministry of Industry and Mines, allowed cashew value chain actors, financial institutions, collateral management companies, and a number of key ministries to interact on a regular basis and put in place an innovative reform that allows agricultural commodities to be used as collaterals in order to access credit. Since then, Côte d'Ivoire has developed and adopted a legal and regulatory framework for warehouse receipt financing and has adopted the first warehouse receipts law in francophone Africa. Some \$16 million of loans have been facilitated for cashew value chain actors through this effective WBG collaboration.

BOX 4: Blended finance

Large amounts of capital that could be deployed for projects in emerging markets are sitting on the sidelines because they require risk mitigation, facilitation, or partnerships with other capital providers along the risk-capital spectrum. Blended finance—a package comprised of concessional funding provided by development partners and commercial funding provided by a financier—can help mitigate real or perceived risks which often lead to higher costs or delay or prevent a transaction from happening. Concessional funds help bridge gaps and address market barriers that prevent private sector investment in areas of strategic importance for the development community such as smallholder and SME inclusion, climate-smart agriculture, and access to finance. An example of blended finance is the current Global Agriculture and Food Security Program (GAFSP) Private Sector Window where the International Finance Corporation uses concessional funds from the GAFSP Private Sector Window alongside its own commercial funding. Since inception, the GAFSP Private Sector Window has supported 51 agribusiness and agrifinance projects in 25 countries, deploying approximately \$260 million of donor funds, leveraging an additional 1.7 times this funding on average from IFC and 3.5 times this funding from other development finance institutions and/or private investment. In parallel, the GAFSP Private Sector Window has supported 47 IFC Advisory Services projects across 27 countries for an amount of over US\$13 million.



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