CDC
Investment works

Food and Agriculture

Sector strategy

CDC has a rich history of investing in the food and agriculture sector for over 70 years. The following pages give an insight into why this sector matters for us and what our investment priorities are.

01

Introduction

Great progress has been made towards eliminating poverty over the last 50 years. Nevertheless, eight hundred million people still live with the persistent risk of going hungry. Most of them live in rural parts of Africa and Asia, and depend on agriculture for their incomes.

In advanced economies, the percentage of the population that makes its living directly from agriculture has fallen to the low single digits. In Africa and South Asia, by contrast, it remains the single biggest source of employment, accounting for more than half of all jobs in several countries. Urbanisation will surely continue in these regions, but the rural population will remain large for decades to come. And eliminating the poverty that blights it will require material improvements in agricultural productivity.

Hence CDC's engagement with the sector, which dates back to our foundation in 1948. As an impact investor, CDC can commit to providing the food and agriculture (F&A) sectors of Africa and South Asia with capital that purely commercial players are deterred from investing in these fragmented and volatile markets.

Our strategy is built on five investment themes. We aim to lift farm productivity, integrate value chains, improve access to nutritious food, support sustainable F&A business models, and encourage innovation. Insofar as we can promote these ends, we will help to achieve the United Nation's Sustainable Development Goals (SDGs) for 2030.

Contents

02

The problems we are trying to solve

The food and agriculture (F&A) sectors of developing economies are central to the fight against poverty, and not only because they feed hungry populations. They also provide more employment in African and South Asian countries than any other sector and contribute a material portion of GDP (see Figure 1). F&A sector growth is two to four times more effective in raising the incomes of the poor than growth in other sectors[1].

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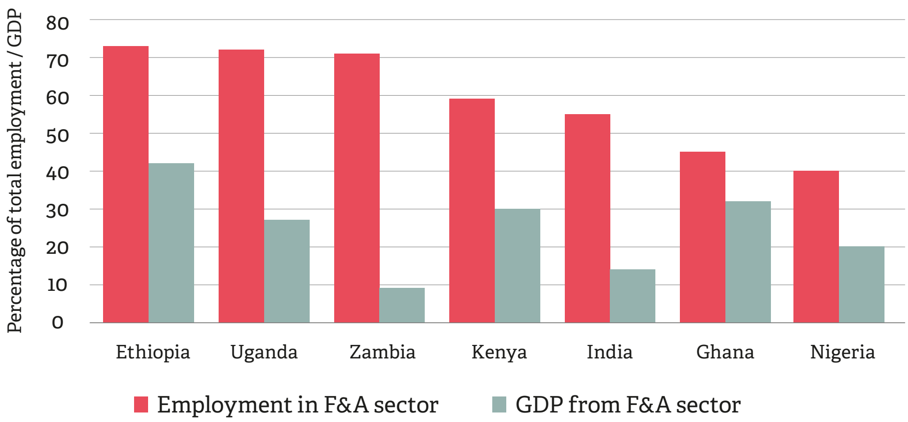

Figure 1: F&A sector: Contribution to employment and GDP (selected countries, 2019)
(Source: FAO, World Bank, CIA Factbook)

1 World Bank

The poverty that continues to blight Africa and South Asia, especially in rural areas, is in large part a result of low levels of productivity in their F&A sectors. This has several interrelated causes.

Lack of access to credit leads to low productivity and incomes

Eighty-five per cent of farmers[2] in these regions – more than 300 million of them – work plots of land smaller than two hectares. The inherent inefficiency of working very small farms is compounded by the difficulty these smallholders then face in accessing capital. Banks are reluctant to lend to businesses with such small and volatile revenues, and which often have uncertain title over the land that might otherwise be used as collateral. Global demand for credit from smallholder farms is estimated at $200 billion, but only $14 billion has been extended to them by banks, with a further $36 billion coming from informal lenders such as landlords and traders[3]. This shortage of capital means that farming in South Asia and Africa is under-mechanised and that farmers purchase the inputs, such as seeds and fertilizers, that they can afford rather than those that will maximise long-term output (see Figure 2). Smallholder farms in sub-Saharan Africa produce 80 per cent less than comparable U.S. farms.

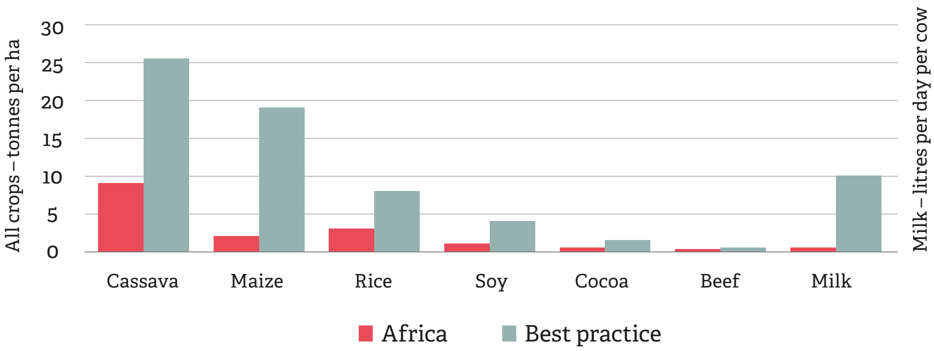

Figure 2: Crop yields in Africa vs. best practice (in tonnes per ha or litres per day per cow) (Source: FAO, various NGOs and commercial players)

Nor do smallholder farms generate returns sufficient to justify the expense of gaining knowledge that would help farmers to adopt more efficient practices. A dairy farmer in New Zealand, for example, may well have gained a university degree in agricultural science and continually add to his knowledge through membership of information-sharing organisations. By contrast, smallholders in South Asia and Africa have little commercial or technical knowhow, instead following traditional practices that deliver low long-run yields. Young people in rural communities are increasingly migrating to cities, leaving farming to the older generations.

Agriculture is central to fostering economic growth, reducing poverty, and improving food security in Africa.

2 FAO
3 FAO

Domestic F&A value chains need to transform

Farming is only the first stage of the F&A value chain which ends with consumers (see Figure 3). Globally, 78 per cent of value is captured by post-farming participants in the F&A value chain. In Africa this number is only 34 per cent, the result of chronic underinvestment in food processing and a lack of integration in the supply chain. Primary produce is often exported from Africa for processing in advanced economies, with the finished goods then imported to Africa. Africa imported $65 billion of food in 2016 – a third of all food consumed there – and on current trends this total is expected to rise to $115 billion by 2025[4].

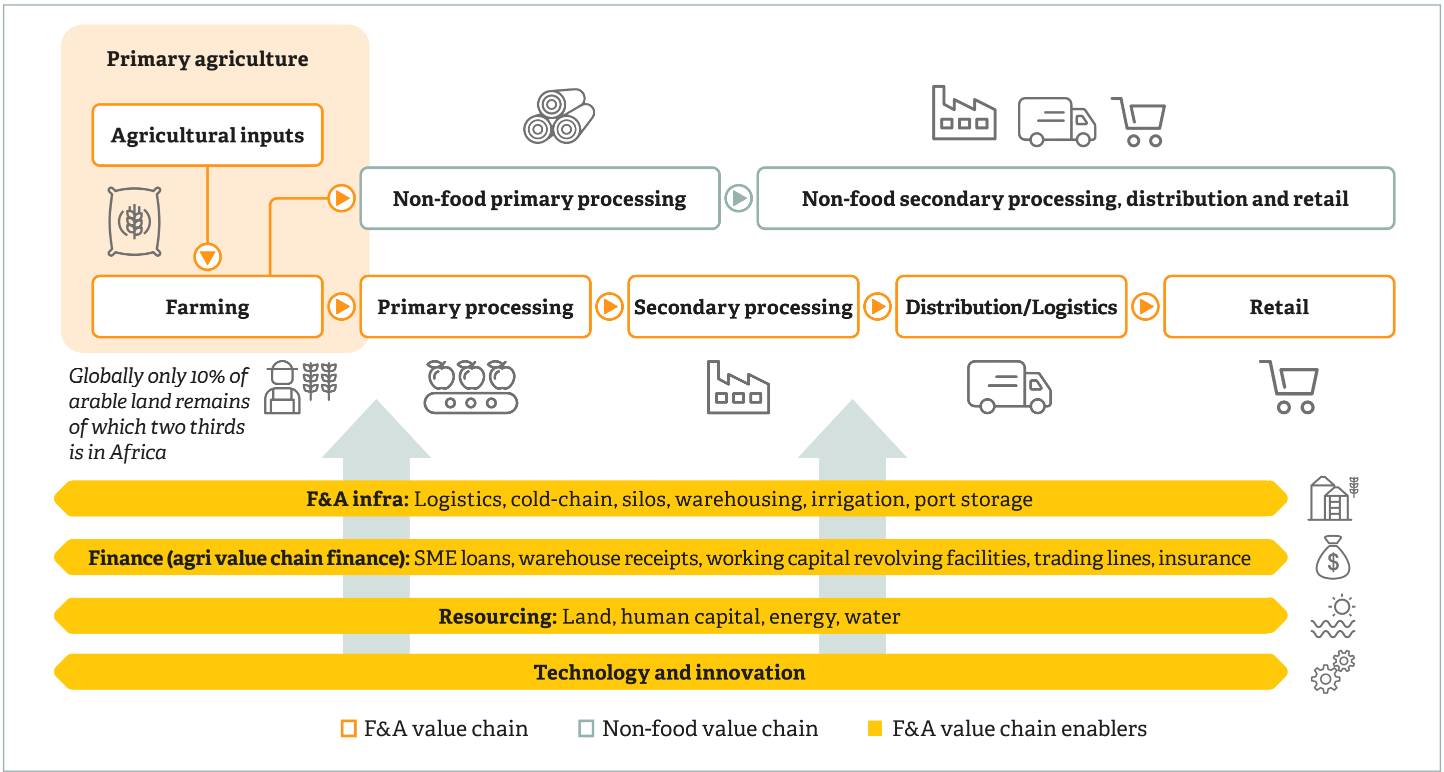

Figure 3: An overview of the entire F&A value chain and key enablers

The low value-capture that results from underinvestment in processing is exacerbated by an excessive number of intermediaries between the farmer and primary processors. In the typical F&A supply chain of a developed market, there are no more than three or four intermediaries between the farmer and the consumer. In emerging markets, this number is significantly higher. These intermediaries add little value by way of sharing best practices; they reduce efficiency in the supply chain by duplicating efforts; and they obscure farmers view of market prices. Given the cash crunch faced by farmers in managing seasonal crop cycles, some intermediaries supply farmers with credit at high interest rates which effectively makes them captive suppliers. The net result is lower incomes for farmers, poor farming practice and a shortage of cash – a vicious cycle that repeats itself every crop season.

4 McKinsey

Poor F&A infrastructure has created multiple inefficiencies

The infrastructure for food storage and transportation is underdeveloped in our regions, causing a considerable loss of food. In Africa, about a quarter of total food production is wasted. And almost half of this waste is due to shortcomings in storage and handling, most of the rest occurring in production (see Figure 4). In contrast, only 6 per cent of food waste in North America occurs in the storage and handling phase.

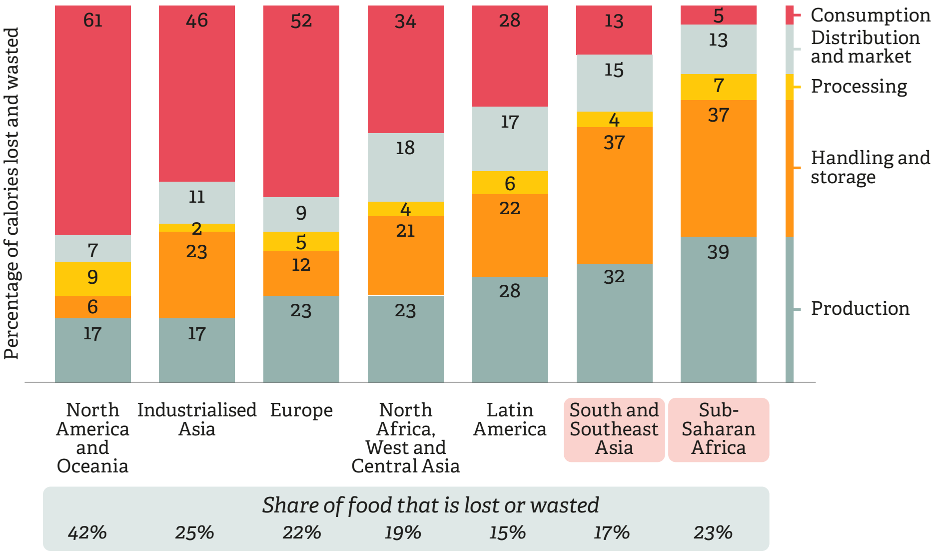

Figure 4: Sources of food wastage by region (Source: World Resources Institute, 2019)

These inefficiencies along the F&A value chain mean that food is less readily available, more expensive and of lower quality than it would otherwise be. At the same time that obesity is becoming a problem among some urban populations in these regions, many continue to suffer malnutrition. One-in-four Africans and one-in-six South Asians go hungry[5], and many more suffer a deficiency of particular nutrients, such as vitamins, minerals and protein. Sub-Saharan Africa's rapidly growing population means that, despite progress in fighting hunger, the portion of children that are "stunted" – that is, who are unusually small for their age – has risen from 45 per cent in 1990 to 55 per cent today.

The F&A sector in Africa and South Asia is faced with systemic market failures and serious development challenges that require long term capital.

5 FAO

Rural poverty remains rife

The percentage of the world's population who live in absolute poverty (defined as an income of less than $2 per day) has declined from 40 per cent in 1980 to 8 per cent today. Most of this remaining poverty is to be found in rural parts of Africa and Asia. Because the demand for basic foods does not rise with GDP, increased output in other sectors (such as information technology in South Asia or minerals in Africa) does not automatically flow through to incomes in rural communities. Insofar as their agricultural production and supply chains remain inefficient, they remain poor.

And this poverty, dreadful in itself, has undesirable knock-on effects. Children, and especially girls, are not educated, perpetuating the cycle of low productivity and poverty. Women remain bound to back-breaking household and agricultural work. And the environment is damaged. Soil is destroyed by agricultural practices it cannot sustain, trees are cut down for fuel and limited water resources are exhausted.

The pressures on F&A are likely to worsen. The population of Africa is expected to double by 2050, adding a billion mouths to feed. At the same time, however, climate change threatens to reduce crop yields. Africa and South Asia will be especially hard hit given their large agricultural sectors and reliance on rain-fed agriculture. Competition for land and water resources may become a source of conflict, not only within poor countries but between them.

In short, achieving the United Nations' SDGs by 2030 requires significant improvements in F&A sector productivity built on sustainable technical and commercial practices (see Figure 5). And making these improvements requires sustained investment in the sector – $40 billion a year in Africa alone, according to the African Development Bank (AfDB), only $9 billion of which is now being provided by development banks, commercial investors and governments.

1 NO POVERTY
Almost 80 per cent of poor people live in rural areas, and the majority rely on agriculture for their livelihoods

2 ZERO HUNGER
The world produces enough food for everyone, yet 815 million go hungry

3 GOOD HEALTH AND WELL-BEING
Good health starts with nutrition (avoiding both undernutrition and obesity)

4 QUALITY EDUCATION
Nutritious food is crucial to cognitive development and learning

5 GENDER EQUALITY
Women produce ½ of the world's food but have much less access to land

6 CLEAN WATER AND SANITATION
Sustainable agriculture has the potential to address water scarcity (e.g. through more efficient irrigation methods)

7 AFFORDABLE AND CLEAN ENERGY
Modern food systems are heavily reliant of fossil fuels

8 DECENT WORK AND ECONOMIC GROWTH
Agricultural growth in low-income countries can reduce poverty by half

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Agriculture accounts for ¼ of GDP in developing countries

10 REDUCED INEQUALITIES
Land reforms can give fairer access to rural land

11 SUSTAINABLE CITIES AND COMMUNITIES
Agricultural investment can help manage growing urbanisation

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
⅓ of food we produce is lost or wasted; agriculture is a major consumer of freshwater

13 CLIMATE ACTION
Agriculture generates 20 per cent of greenhouse gases globally and is key in responding to climate change

14 LIFE BELOW WATER
Fish gives 3 billion people 20 per cent of daily animal protein, but overfishing threatens stocks

15 LIFE ON LAND
Forests contain >80 per cent of the world's terrestrial biodiversity, but forests are cleared for agricultural expansion

16 PEACE, JUSTICE AND STRONG INSTITUTIONS
Ending hunger can contribute greatly to peace and stability

17 PARTNERSHIPS FOR THE GOALS
Partnerships between different parts of society are vital to reach F&A-related goals

SUSTAINABLE DEVELOPMENT GOALS

Figure 5: The significance of F&A for the Sustainable Development Goals (Source: FAO, World Bank, WWF)

03

Our investment themes

CDC has recognised the importance of F&A for development since our founding in 1948, and the sector has accounted for a significant allocation of our capital. We have made more than 400 investments, totalling over £6 billion (in today's money). This rich history in F&A has taught us valuable lessons about what works and what doesn't in bringing about our development impact objectives of creating economic opportunities in rural areas, improving food security and nutrition and promoting environment sustainability. Given the global trends and market failures identified above, these impact objectives translate into five "strategic investment themes":

1. **Lifting farm productivity to build scale**
2. **Promoting integrated and inclusive value chains**
3. **Improving access to affordable and nutritious food**
4. **Supporting climate resilient and sustainable business models**
5. **Innovating for systemic transformation**

3.1 Lifting farm productivity

Low farm productivity in Africa and South Asia has three main causes: farms are subscale, farmers lack access to the capital they need, and farmers lack information about best practices, both commercial and agricultural. CDC aims to address each of these issues.

Where the legal environment permits, CDC invests in enterprises that will increase the scale of agricultural production and thereby improve efficiency. We played an important role in developing the palm oil industry in South East Asia (when this region was within our mandate), and we have helped the tea industry in Kenya and sugar industry in Zambia to reach scale and global competitiveness.

Even when not looking to increase scale, farmers need access to working capital at various points in the production cycle: for example, to buy inputs (such as seeds and fertilizer) and to pay for labour during the harvesting of crops. CDC works with local financial institutions – from traditional banks to fintechs and non-bank lenders – to increase the supply of credit available to small holders.

We also seek to accelerate the transfer of knowledge and build capacity in the F&A sector in our regions. We do this by providing technical assistance for upskilling credit management processes in rural financial institutions and by supporting organisations that encourage the adoption of best practices and environment-friendly technology.

3.2 Promoting integrated and inclusive value chains

As noted, low returns to the rural economy result not only from inefficient farming but from features of the downstream value chain – most importantly, insufficient domestic processing, an excess of intermediaries, and underdeveloped F&A infrastructure. CDC invests in enterprises that we believe will help to solve these problems.

For example, we have invested in Zambeef, a leading integrated animal protein and food processing company in Zambia with operations in animal feed, primary and secondary processing and distribution. And we have invested in Jacoma Estates in Malawi, which has developed over 1,000 hectares of irrigated macadamia and other crops. The company is focused on producing cash crops for export, and has three nucleus farms and a macadamia processing facility. It has also established smallholder out-grower schemes for macadamia, chili and paprika.

We have the ability to provide long term and patient capital to multi-national corporations (MNCs) and regional companies that are developing integrated value chains with large scale contract farms and out-grower schemes that feed into processing units.

Most farmers in Africa and South Asia are smallholders with less than a two-hectares of land and limited access to capital. However, technological innovations now allow for lenders to capture data at the individual farm level, analyse the credit risk and then, when prudent, to disburse funds to farmers. This could allow even smallholders gradually to become part of the formal financial system and help to address the chronic financing gap farmers face at every crop cycle.

Case Study 1 – Jacoma

In a country where farmers face significant challenges from climate change, lack of access to international markets and low-quality yields, private capital is key to unlock new primary agricultural developments. Agribusiness in a landlocked country like Malawi faces challenges to attract private capital and produce agriculture products that can reach export markets.

In 2016, we invested in Jacoma, an agribusiness operating in northern Malawi. The financing, alongside funding from AgDevCo, has helped the company expand its farming operations at its Tropha Estates, where it produces high value macadamia nuts, chilli and paprika.

It's also provided up to 100 hectares of year-round irrigation to local smallholder farmers, extend existing outgrower schemes and strengthen the company's impact in neighbouring communities.

3.3 Improving access to affordable and nutritious food

Malnutrition among children remains a widespread problem in Africa and South Asia, causing stunting and poor educational outcomes. Part of the answer lies simply in increasing the production of nutritious and affordable food near to where it is needed. CDC has invested in Africa Improved Foods (AIF), a public-private partnership involving the Government of Rwanda, CDC and several other development banks. AIF provides a scalable and sustainable solution to malnutrition and stunted growth in children through local production of nutritious foods. It is now producing enough to feed more than a million children daily.

Besides production, the distribution of food is an important factor in making sure people have access to affordable nutrition. The waste that occurs in the process of getting food from farms to consumers drives up its cost (see above). CDC therefore invests in companies that increase distribution capacity or facilitate the reduction in food loss. This includes logistics, port facilities, cold-chain, storage and transportation, all of which have a material impact on food security.

Case Study 2 – Africa Improved Foods (AIF)

Chronic child malnutrition persists in areas of East Africa. National import barriers and stringent manufacturing requirements have in the past prevented the local development of a suitable high-quality product to tackle this issue.

In 2015, we made an equity investment in Africa Improved Foods (AIF), a Rwandan food manufacturer and supplier. It's an innovative public-private partnership addressing malnutrition at scale by providing high-quality and nutrient-rich complementary foods to children and pregnant and breastfeeding women in Rwanda and East Africa.

Our investment, alongside Royal DSM, a leading multinational health and nutrition products manufacturer, the IFC, and Dutch development finance institution FMO, funded the greenfield construction of a processing facility in Kigali.

AIF also aims to improve smallholder livelihoods through direct sourcing of some of its raw materials from local cooperatives, many of which are run by women. It's created a network of rural collection centres where smallholders can sell their produce without having to transport it long distances.

3.4 Supporting climate resilient and sustainable business models

Agriculture, forestry and other land uses account for a quarter of all greenhouse gas (GHG) emissions globally, and agriculture consumes 70 to 75 per cent of the fresh water resources. Africa and South Asia make relatively small contributions to total emissions. But they are material nevertheless and, more importantly, agriculture in these regions is especially vulnerable to the effects of climate change.

CDC addresses climate resilience through both adaptation and mitigation approaches. Improved F&A infrastructure and farming techniques reduce GHG emissions and the resources required for every unit of food consumed. CDC seeks to invest in enterprises deploying innovative climate resilient technologies that can be scaled up, such as micro-irrigation and bio-pesticides. Forestry is an effective method of carbon sequestration, and we are in the process of expanding our investments in this subsector.

Besides directing our capital towards enterprises that promote environmental sustainability, we regularly audit the companies in our F&A portfolio on their environment practices, and help them to apply systems that improve their management in this area.

3.5 Innovating for systemic transformation

Technologies developed in recent years promise to transform agriculture, promoting efficiency, security and sustainability. Such "agtech" includes a host of technologies that are both affordable and scalable in the regions we cover. These include remote sensing, geo-spatial mapping, satellite imagery, variable rate technology for the optimal application of agri-inputs and artificial intelligence (including machine learning). Some of these technologies combine towards delivering what has become known as "precision agriculture" which helps farmers to increase productivity and reduce costs. For example, "big data" analytics allow players along the value chain gain better insights into changes in supply and demand and to adjust their plans accordingly.

Given that this is still a nascent space, especially in our markets, CDC is deploying a venture capital (VC) approach to catalyse change. An example is our investment in Omnivore Capital, a leading VC player focused on innovation in the F&A space in India. The companies in Omnivore's portfolio are making farming more profitable, resilient and sustainable.

These five investment themes cut across the core components of the F&A value chain. To support the enablers of the F&A value chain we prioritise F&A infrastructure and logistics, value chain finance and agtech. Food security and food affordability remain important to our core markets and, where possible, we supply trade and supply chain finance for critical staples and commodities.

04

How we engage

The F&A enterprises that CDC invests in vary considerably, not only in their lines of business but in their maturity and the risks entailed by their location or business plans. We provide "growth capital" when the business case is well established and the risks are relatively low: for example, for F&A infrastructure, processing and the primary production of staples. When the risks are higher and when the investment period is longer – as when investing in high value crops, forestry or agtech – we draw on funds allocated to our "catalyst capital" pool. We also provide businesses with technical assistance via CDC Plus to fund research and development, training and pilots of innovative business or operating models.

Growth capital and catalyst capital can be provided in the form of equity, debt, trade and supply chain finance or indirectly via third-party funds or partnerships with other F&A service providers (see Figure 6). The choice of "product" depends on the needs of the enterprise and the in-house capabilities of CDC and our potential partners. This wide range of options means that we can provide smart and patient capital to businesses at any point on the F&A value chain.

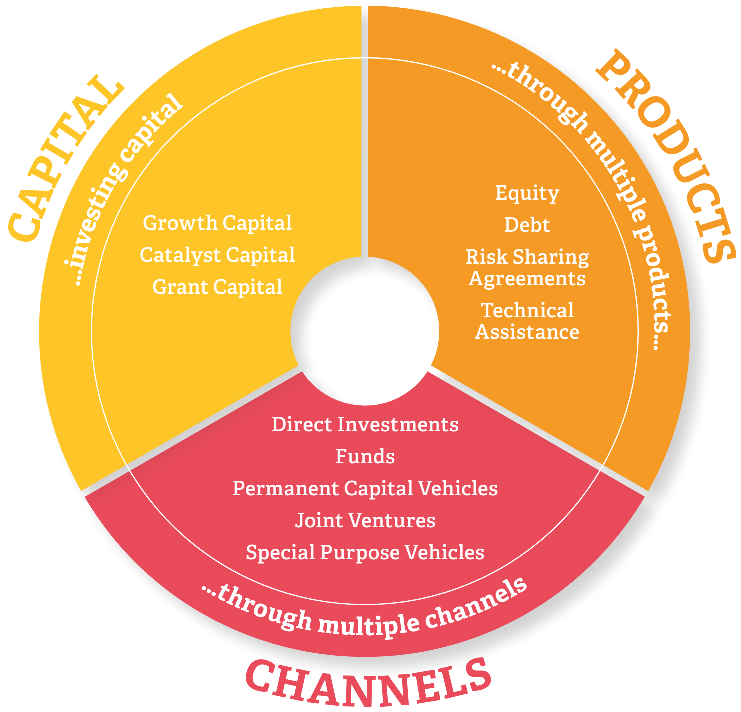

Figure 6: How CDC invests

Through our investments we endeavour to contribute to long-term sustainable change in the F&A sector and towards development impact in our target geographies. Our strategic investment themes have resulted in the development of F&A sub-sector investment priorities across the F&A value chain and core enablers. Our priority sub-sectors across the F&A value chain include:

- Agri inputs (fertilizers, agchem, seeds, distribution, micro-irrigation, farm mechanization)
- Animal protein (including animal feed and dairy)
- High value crops (select perennial crops, select cash crops, select fruits and vegetables)
- Food processing
- Forestry

In addition to the above sub-sectors, we also focus on F&A infrastructure, logistics, agtech and select staple and traded commodities.

Improving the performance of the F&A sectors of African and South Asian countries requires progress on many fronts – technological, infrastructural, educational, financial and institutional. This often requires us to work closely with several stakeholders. We work with several UK government agencies and with domestic authorities in Africa and South Asia, and we cooperate with the development finance institutions of other countries. Over the long-term, the UK's many large private sector players in the food industry could make ideal partners in promoting the growth of F&A in Africa and South Asia.

* * *

Most of those who still live in absolute poverty are to be found in rural parts of Africa and South Asia. These populations are urbanising. But large numbers of will remain outside the cities, and their welfare will depend on the productivity of their F&A sector.

Lifting productivity from its currently low levels requires transformation right along the value chain from farm to fork – a transformation we call "agriculture to agribusiness". Institutional factors, such as land title, will play a role. But ultimately the transformation will be brought about by F&A businesses operating in new and more efficient ways. CDC is doing its part by directing smart and patient capital to the businesses that contribute to this transformation. Together we can improve the lives of the world's poorest people.

Over 70 years of F&A investment experience in emerging markets

More than $6 billion in cumulative investments in the F&A sector since our founding (in today's money)

More than 400 F&A investments since our founding

Investments across breadth & depth of F&A value chains

This strategy encompasses the activities, motivations and ambitions of a large group of people at CDC. They include our investment professionals, which span product teams (F&A Equity, F&A Debt, Funds & Capital Partnerships and Trade & Supply Chain Finance), and our impact professionals, who are thought leaders on the topics of E&S, Business Integrity, Development Impact, Gender and Climate Change.

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