

Part I

INVESTING
IN AGRICULTURE FOR
A BETTER FUTURE



Part I





1. Introduction

Recent food crises and growing concerns about global climate change have placed agriculture on top of the international agenda. Governments, international organizations, and civil society groups gathered at the Group of Eight (G8), the Group of Twenty Finance Ministers and Central Bank Governors (G20) and Rio+20 summits in 2012 have recognized a convergence between the dual goals of eradicating hunger and making agriculture sustainable. Achieving these goals will require a significant increase in agricultural investment but, more importantly, it will require improving the quality of this investment.

FAO has long advocated investing in agriculture. The first edition of *The State of Food and Agriculture*, published in 1947, identified the need for more investment in agriculture to produce food for deficit regions, and the 1949 edition reported financial targets for levels of investment required to rebuild agriculture after the Second World War (FAO, 1947; FAO, 1949). These and many subsequent reports focused on the role of governments in planning and directing the investment requirements for agriculture, with little attention to the role of farmers themselves.

The international financial crisis, which is affecting governments and donors around the world, means that now, more than ever, public resources alone cannot meet the investment needs for agriculture. Governments and donors play a crucial role in catalysing, channelling and governing agricultural investment, but private investors – primarily farmers themselves – must be central to any investment strategy for agriculture.

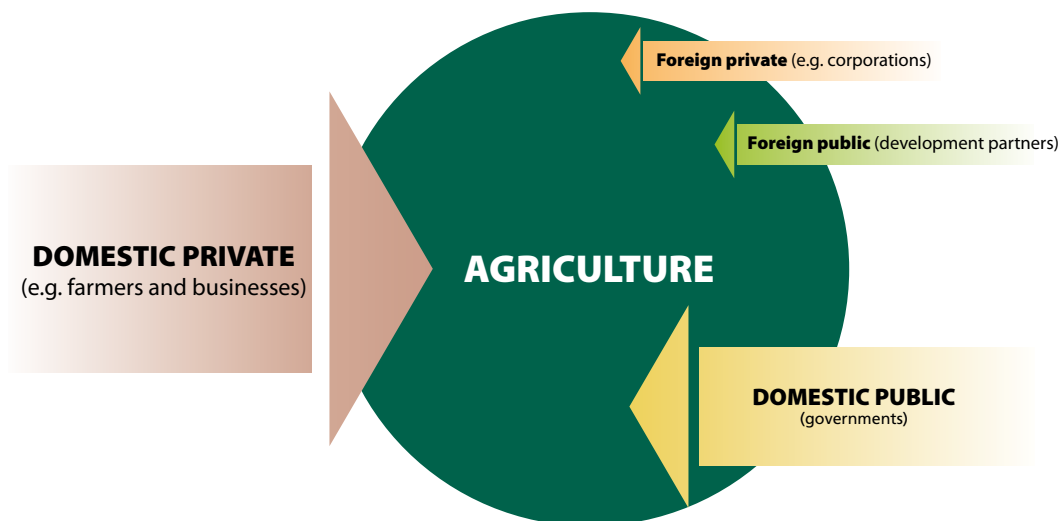
This edition of *The State of Food and Agriculture* reviews the economic and social rationale for agricultural investment, examines the causes of underinvestment in agriculture and presents evidence showing how public resources can be used more effectively. The focus of this report is on the accumulation of capital by farmers in agriculture and the investments made by governments to facilitate this accumulation. *Investing in agriculture for a better future* can help achieve a world in which everyone is well nourished and natural resources are used sustainably.

Who invests in agriculture?

Investors in agriculture can be categorized as public or private and foreign or domestic.¹ The majority of private domestic investors are farmers and they are by far the largest source of investment in agriculture in low- and middle-income countries. Domestic public investors, primarily national governments, are the next largest source of investment in agriculture, followed distantly by foreign public investors such as development partners and by foreign private investors, such as corporations. These investors – public and private, domestic and foreign – invest in different things and for different reasons. Their investments are often complementary, sometimes overlapping, and are generally

¹ In this report, “agriculture” refers to crops, livestock, aquaculture and agroforestry.

FIGURE 1
Sources of investment in agriculture



Source: FAO.

not substitutable for each other (Figure 1). The best available data, compiled and analysed for this report (Figure 5 in Chapter 2), only permit a rough comparison of the relative magnitudes of these investment flows, but the comparison highlights the central importance of farmers as the largest investors in agriculture. This has important implications for policy: while public investment remains essential, the focus of investment policy has to shift to facilitating more and better private investment.

Why invest in agriculture?

Farmers invest to feed their families, to increase and diversify their incomes and to build their wealth. For farmers, investing in agriculture means giving up something now (such as money, effort or time) in order to accumulate assets or capital that will allow them to increase their productivity and incomes in the future. Purchasing a plough, building an irrigation ditch, learning a new skill or nurturing trees and animals to reach a productive age are all forms of investment aimed at increasing the farmer's

productivity or income. Farmers and other private investors will invest in agriculture only if the expected returns compensate for the perceived risk and exceed returns from alternative types of investment.

The rationale for public investment in agriculture by governments and development partners rests on three interrelated benefits for society that can come from enhancing agricultural productivity: (i) economic growth and poverty reduction, (ii) food and nutrition security, and (iii) environmental sustainability. For governments and donors, investing in agriculture means allocating scarce public resources to activities that raise productivity in the sector. Agricultural research and market infrastructure count among the most important types of public investment in agriculture.

History shows that even though farmers are the largest investors in agriculture, in the absence of good governance, appropriate incentives and essential public goods they do not invest enough.² Agricultural production is usually seasonal or cyclical in nature, and

² See Chapter 2 for clarification of basic concepts and Chapter 5 for a more detailed discussion.

is vulnerable to natural phenomena such as drought, pests and diseases. Producers are often geographically dispersed, and most agricultural products are bulky and perishable. All these factors make agricultural investment risky and highly dependent on the existence of good rural infrastructure, robust input supply and output processing industries, and transparent market institutions and price signals. Appropriate public investment can reduce the risk and increase the profitability of private investment and thus enhance incentives for farmers to invest.

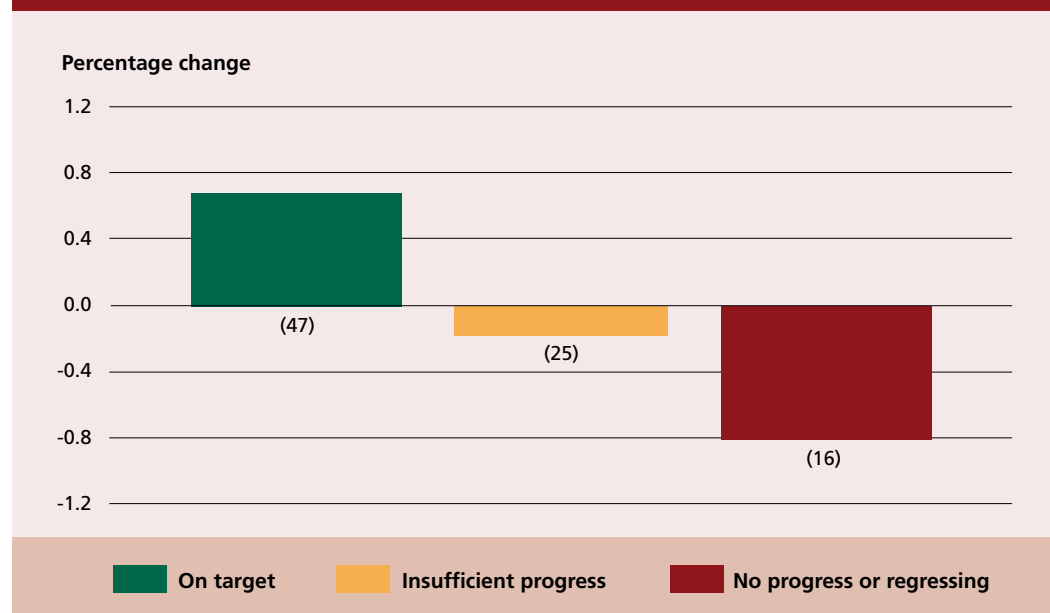
An extensive body of evidence from many settings around the world shows that agricultural investment is one of the most important and effective strategies for **economic growth and poverty reduction** in rural areas, where the majority of the world's poorest people live. GDP growth in agriculture has been shown to be at least twice as effective in reducing poverty as growth originating in other sectors (World Bank, 2007a). Productivity growth in agriculture generates demand for other rural goods and services and creates employment and incomes for the people who provide them – often the landless rural poor.

These benefits ripple from the village to the broader economy in a process first documented decades ago (Hayami and Ruttan, 1970) and still valid in many rural areas today. Evidence presented in Chapter 5 shows that many of the most productive types of public investment for agriculture also have strong payoffs in terms of poverty reduction.

Agricultural investment is also key to eradicating hunger through the multiple dimensions of **food and nutrition security**. Investment by farmers and the public sector in agriculture and supportive sectors can increase the availability of food on the market and help keep consumer prices low, making food more accessible to rural and urban consumers (Alston *et al.*, 2000). Lower-priced staple foods enable consumers to improve their diets with a more diverse array of foods, such as vegetables, fruit, eggs and milk, which improves the utilization of nutrients in the diet (Bouis, Graham and Welch, 2000). Agricultural investments can also reduce the vulnerability of food supplies to shocks, promoting stability in consumption.

On-farm investment in agriculture appears to be closely linked to hunger reduction (Figure 2). Agricultural capital stock per

FIGURE 2
Average annual change in agricultural capital stock per worker and progress towards meeting the MDG hunger reduction target, 1990–92 to 2007



Notes: The MDG hunger reduction target refers to MDG target 1C which is to halve, between 1990 and 2015, the proportion of people who suffer from hunger. The number of countries in each category is shown in parentheses.

Source: Authors' calculations using FAO, 2012a and FAO, IFAD and WFP, 2012.

worker, a proxy for private domestic agricultural investment, has grown at an average rate of 0.7 percent per year since 1992 in the 47 countries that are on track to achieve the Millennium Development Goal's (MDG) hunger-reduction target, but it has declined slightly in the 25 countries where progress has been insufficient and strongly in the 16 countries where undernourishment rates have stagnated or regressed.

Private on-farm investment is clearly important for eradicating hunger, but public investment is also critical. Hunger is more prevalent in countries where public agricultural expenditure per worker is lower, suggesting that both public and private investment in agriculture are important in the fight against hunger (Figure 3). Of course, governments in low-income countries may spend less per agricultural worker precisely because they are poor, but evidence shows that many of them also spend proportionately less of their budgets on agriculture than is warranted by the prominence of agriculture in their economies (Chapter 2).

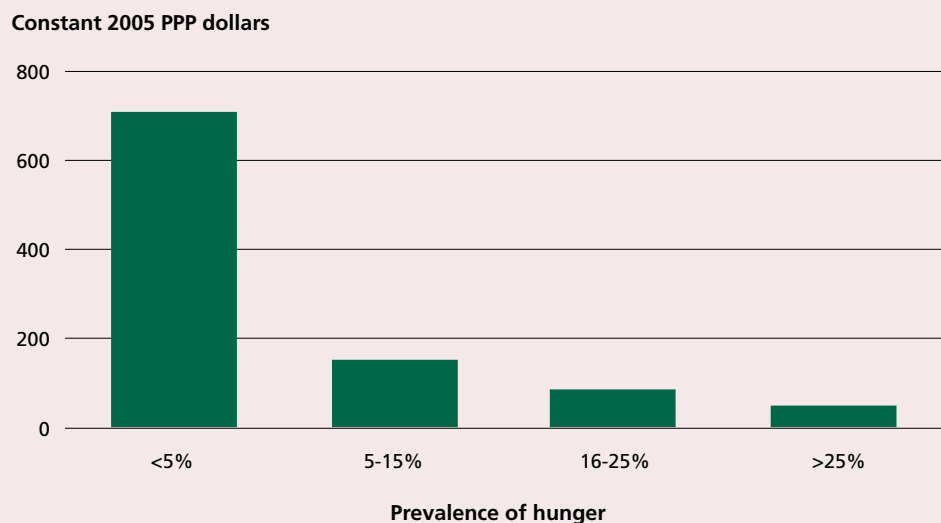
Productivity growth in agriculture is necessary – but not sufficient – to achieve

environmental sustainability. World agriculture needs to feed a projected population of more than 9 billion people by 2050, some 2 billion more than today. Most of the population growth will occur in countries where hunger and natural resource degradation are already rife. Crop and livestock production systems must therefore become more intensive to meet growing demand but it will also be necessary to use fewer natural resources and improve the quality of these resources (FAO, 2011a). When agricultural ecosystems are more productive, natural ecosystems can be protected, and when farmers are rewarded for the value of the ecosystem services they provide, agriculture can become both more productive and more sustainable (FAO, 2007).

How to invest in agriculture for a better future?

Farmers in many low- and middle-income countries are not investing enough to meet their own goals of higher productivity and incomes, much less society's goals of food and nutrition security, poverty reduction

FIGURE 3
Government expenditures on agriculture per worker, by prevalence of undernourishment



Notes: Government expenditure per worker is the annual average for 2005–07 and the prevalence of undernourishment is the FAO estimate for the years 2010–12.

Source: Authors' calculations using IFPRI, 2010 and FAO, IFAD and WFP, 2012.

and environmental sustainability. Addressing the incentives and constraints that influence farmers' investment decisions is imperative for stimulating on-farm investment.

Governments and their development partners have four basic responsibilities in this regard:

- create a conducive investment climate to catalyse socially responsible investment by farmers and other private investors;
- channel public expenditures towards the provision of essential, high-return public goods;
- overcome the constraints that smallholders face in saving and investing; and
- govern private investment, especially large-scale investment, to ensure social equity and environmental sustainability.

The relative importance of the four responsibilities and the priorities for public investment in and for agriculture will vary according to the level of economic development of the sector.

Governments have a major role in supporting a positive **investment climate** that is conducive to private investment in agriculture. The investment climate depends on the **enabling environment** – policies, institutions and infrastructure – for which governments are responsible and the **market incentives**, which are largely market-determined but are influenced by government policies in many domains. The investment climate influences the perceived profitability and risks associated with private investment, thus creating incentives or disincentives for farmers, rural enterprises and other private entities to invest in agriculture. The elements of an enabling environment and market incentives for investment in agriculture share many traits with a good general investment climate, although the relative importance of these elements may be different for agriculture.

The challenges faced by private and public investors in agriculture will vary according to context. Regional and country-level characteristics are influential, as are traits specific to the individual investor. However, all agricultural producers, regardless of their size or the country context, need the following basic features of an enabling environment: infrastructure and human resource development, trade and market

institutions, macroeconomic stability and good governance. Agricultural investment is particularly dependent on such key enabling factors as predictability and transparency of policies, clear land tenure and property rights, transparent trade policy and physical rural infrastructure (including transportation, irrigation, communications, water and sanitation, and electric power). Other relevant enabling factors for agriculture include product norms and standards, research and development, and rural financial services (Chapter 3).

Many aspects of the enabling environment are **essential public goods**, which the private sector cannot be expected to provide.

Governments have a responsibility to channel scarce public funds towards types of investment that have the highest payoff in terms of agricultural productivity, poverty reduction and environmental sustainability. Evidence presented in this report (Chapter 5) shows that public expenditures have higher social payoffs when they are concentrated on the provision of public goods such as agricultural research, rural infrastructure and education, rather than on subsidies for fertilizers, water and credit. Subsidies may be justifiable in some situations because they generate public good benefits; indeed, what constitutes a public good may differ according to the level of development of the country. However, evidence is clear that some government expenditures have higher payoffs than others in terms of agricultural productivity and poverty reduction.

Governments also need to ensure that **environmental sustainability and social equity** considerations are effectively built in to private and public investment decisions in agriculture. This involves adopting laws and policies that support environmentally sustainable private investment and protect the rights of the most vulnerable. Policies in domains such as biofuel production, food self-sufficiency and international trade may have unintended adverse environmental consequences, which should be carefully evaluated. It also requires that public investment is directed towards enhancing production in ways that are environmentally sustainable and socially beneficial (Chapter 3).

In many countries, smallholders, many of whom are women, face particular constraints to saving and investing in their farms and

may need special support in overcoming these. Linking smallholders to markets through appropriate institutions and infrastructure is part of an overall enabling environment and is a precondition for realizing the benefits accruing from better incentives. Overcoming credit constraints and risk aversion are other crucial challenges for smallholders. Helping build effective producer organizations can be a powerful way of linking smallholders to markets and overcoming some of the difficulties they face. In many contexts, social transfers, including subsidies, can also constitute an instrument that enables poor smallholders to invest and increase their assets (Chapter 4).

The increasing trend towards large-scale corporate investment in agriculture presents new opportunities and challenges for agriculture. Governments have a responsibility to govern such investment to ensure that it is conducive to food security and poverty alleviation in the countries and localities where it occurs. International organizations, civil society and corporate investors share the responsibility for governance of such investment. Adherence to the *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security* (FAO, 2012b) and other rights-based principles are essential in this regard (Chapter 4).

The relevance and scale of the various policy challenges highlighted above will depend on individual country characteristics, level of development and priorities. Getting economic incentives right is critical for all countries – from low-income to high-income countries – as this has implications for geographic patterns of investment beyond the individual countries. Improving other elements of the investment climate is likely to be more challenging in many low- and middle-income countries. In the low-income countries and many lower-middle-income countries, with higher incidence of poverty and a large share of smallholders, addressing the constraints to smallholder investment and ensuring that large-scale investment is conducive to food security are crucial.

Investing in agriculture for a better future calls for a renewed partnership between governments, donors, civil society and the private sector – especially farmers – to ensure that significantly more investment

is mobilized for agriculture and that it is channelled towards socially beneficial and environmentally sustainable outcomes. Building institutions and human capacity are central to this endeavour.

Structure of the report

Chapter 2 frames the debate by clarifying basic concepts related to agricultural investment and examining the empirical data on different types of investment. It reviews evidence on the importance of on-farm investment in agriculture as well as investment by governments, donors and private foreign investors. It highlights differences across regions and areas where investment may be lagging behind levels required to achieve sustainable productivity growth. Chapter 3 provides evidence on the crucial role of governments and donors in catalysing agricultural investment through the provision of an enabling environment and the transmission of price incentives. For example, macroeconomic and trade policies that tax or support the agriculture sector can influence incentives for investment in unintended ways. Furthermore, achieving sustainable intensification of agriculture requires the incorporation of environmental costs and benefits into the incentives available to agricultural producers. Chapter 4 gives special attention to the constraints to investment confronting smallholders and how governments and donors can help overcome them. The opportunities and challenges presented by recent trends towards large-scale corporate investment in developing country agriculture – by domestic and foreign investors – are also considered. Chapter 5 examines the returns on different types of public investment in different contexts and discusses how the reallocation of public expenditures towards essential public goods rather than subsidies can yield higher returns and socially more desirable outcomes. Chapter 6 draws conclusions and presents policy implications.