Finance in the Agriculture Sector

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Of all finance in the global agriculture sector, farmers themselves are by far the largest source of funding. Based on a rough comparison of available data, on-farm investment is estimated at USD 5 trillion, compared to public spending in the order of several hundred billion, and foreign investment and development assistance in the order of several billion (see Figure 1). Total public agriculture expenditure is much higher in Organisation for Economic Co-operation and Development (OECD) member countries than developing ones, and within the OECD it is overwhelmingly concentrated in the United States (US) and the European Union (EU). Foreign investment in the agriculture sector accounts for several billion USD, but there is limited data as well as large gaps and inconsistencies. Therefore, estimates on investment expenditures in the agriculture sector vary significantly depending on the data source and few conclusions on trends and direction of flows can be made. The financial contribution in the form of foreign assistance in the agriculture sector is small compared to domestic investment or the revenues of large private corporations. However, following a long-term decline, agricultural assistance has been increasing as a consequence of the food crisis of 2007/08 and the resulting attention to agricultural development and food security. Assistance for agriculture predominantly originates from a few key donors and is mainly focused on Sub-Saharan Africa and South East Asia, with Africa receiving approximately half of total assistance.

Figure 1: Global financial flows in the agriculture sector in billion USD.¹

A. Domestic investment

The Food and Agriculture Organisation (FAO) of the United Nations\(^2\) considers on-farm agricultural capital stock (i.e. the value of producers' fixed assets) the “most comprehensive data available” for estimating domestic private investment. FAO's database (FAOSTAT) includes only physical assets such as land development, livestock, machinery and equipment, plantations crops (e.g. trees, vines) and livestock structures. In 2007, on-farm agricultural capital stock amounted to more than USD 5,133 billion, following a steady increase of about 20% since 1975.\(^3\) This long-term trend has been largely influenced by economic and political conditions incentivizing investment. FAO expects the recent spike in commodity prices to have fuelled increased investments in capital stocks. The composition of capital stock differs for different income groups, e.g., high income countries hold the major share of capital stocks in machinery and equipment, while upper middle income countries hold most capital in livestock assets and for low-income countries capital is concentrated in livestock assets and land development.

Considering capital stock per worker, an important predictor of agricultural GDP, illustrates the large discrepancy of investment between low-income countries and high-income countries. Figure 2 compares capital stock per worker by region. At close to USD 90 thousand (constant 2005 prices), average capital stock per worker in high-income countries is about 34 times higher than in low- and middle income countries, and 22 times higher than the global average. Low-income countries are generally characterized by low investment rates and a growing labor force, causing a decline in labor productivity and farm incomes.\(^4\)

![Figure 2: Average agricultural capital stock per worker 2005-2007, in constant 2005 USD.\(^5\)](image)

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\(^5\) Ibid.
B. Domestic public spending

Total public agriculture expenditure is much higher in OECD countries than developing ones, and within the OECD it is overwhelmingly concentrated in the US and the EU. For 2011, the OECD estimated the total support to agriculture in developed countries at USD 364 billion, with 69% of it as direct support for producers and 31% for general, whole-sector support. With the exception of a few large emerging countries, in particular China, which is thought to have surpassed the EU and the US in total spending as of 2011, most developing countries have extremely low levels of government subsidies. In particular those in sub-Saharan Africa have less than a third of the average per worker public agriculture spending than the average for low- and middle-income countries. In the last thirty years agriculture has been declining as a share of government expenditure in all regions but south Asia. The International Food Policy Research Institute estimates public spending for low- and middle-income countries at USD 177 billion in 2007.

High levels of agriculture subsidies can distort trade by stimulating over-production and limiting imports of certain commodities, decreasing demand for agricultural products from countries with lower subsidies. Different types of subsidies can also contribute to or help prevent environmental degradation by altering patterns of land and resource use. For example, subsidies based on output level or those that reduce the price of inputs can create incentives for overuse of inputs like fertilizer and irrigation water. In keeping with recommendations and regulations from the World Trade Organisation (WTO) and other international organizations, OECD countries have generally reduced subsidies that are linked to trade distortion, replacing them with those that are considered to be trade neutral, which have constraints to inputs and that are not based on output. However the World Bank and the International Centre for Trade and Sustainable Development (ICTSD) amongst others have argued that some of these trade-neutral producer subsidies can still distort trade and have negative environmental impacts by increasing the likelihood of overproduction. Table 1 presents a summary of agricultural spending and its composition for the EU, the US, and several emerging countries.

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8 Ibid.
9 Ibid.
<table>
<thead>
<tr>
<th>Country/Group</th>
<th>Total (Billion USD)</th>
<th>Year</th>
<th>Main composition of spending (Billion USD)</th>
<th>Trade distortion</th>
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</thead>
<tbody>
<tr>
<td>EU</td>
<td>102</td>
<td>2009-2010</td>
<td>Decoupled income support for farmers 40</td>
<td>Trade-distorting support has been cut in favor of more neutral policies.</td>
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<td>Decoupled income support for disadvantaged farmers and regions 11.5</td>
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<td>Direct subsidies 18</td>
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<td>General services 9</td>
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<td>Environmental programs 7.5</td>
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<td></td>
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<td></td>
<td>Investment aids 6</td>
<td></td>
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<tr>
<td>USA</td>
<td>130</td>
<td>2010</td>
<td>Food aid 95</td>
<td>Trade-distorting support has been cut in favor of more neutral policies.</td>
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<td></td>
<td>General services 15</td>
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<td>Crop insurance 5</td>
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<td></td>
<td></td>
<td>Direct subsidies 10</td>
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<td></td>
<td>Decoupled income support ~2.5</td>
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<td></td>
<td></td>
<td></td>
<td>Environmental programs ~2.5</td>
<td></td>
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<tr>
<td>China</td>
<td>85</td>
<td>2008</td>
<td>General services of which: infrastructure operating of agencies &gt;50%</td>
<td>Reported no use of WTO clause for low-income and resource-poor producers, but OECD notes continuing input support</td>
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<td></td>
<td>(172)*</td>
<td>(2010)</td>
<td>operating of agencies 18</td>
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<td></td>
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<td>Public stockholding (wheat, rice) 24</td>
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<td>Environmental programmed 8</td>
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<td>Environmental programmed 10</td>
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<td>India</td>
<td>49</td>
<td>2010-2011</td>
<td>Inputs (fertilizer, electricity, irrigation, credit) 21</td>
<td>High but within WTO limits, due to clause for low-income and resource-poor producers</td>
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<td>Support for specific crops 18</td>
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<td>Food subsidies for staple crops 14</td>
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<td>Brazil</td>
<td>10</td>
<td>2009-2010</td>
<td>General services of which: Extension 2.3</td>
<td>Within WTO limits, due to clause for low-income and resource-poor producers (mostly support for cotton)</td>
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<td>Food aid 0.8</td>
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<td>Stockholding 1.7</td>
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<td>Low income support 0.7</td>
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<td>Market price support, inputs, or linked to output level 1.7</td>
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<td></td>
<td>Total 3.5</td>
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Table 1: Summary of agricultural spending and composition in billion USD.\(^\text{14}\)

Public agricultural spending is standardized across the European Union under the Common Agricultural Policy (CAP), which was reformed in November 2013.\(^\text{15}\) A key feature of the Commission’s proposals for changes to the CAP was to strengthen the linkage between direct payments to farmers and environmental performance. This is referred to as the “greening” of the


\(^{15}\) Ibid.
CAP. Such potentially positive aspects of greening include the promotion of crop diversification, the maintenance of permanent grassland, the creation of ecological focus areas devoted to environmental purposes on farms, and the application of penalties for non-compliance with environmental requirements. What has emerged as a result of deliberations in the Council, and more particularly in the Parliament, is a dilution of greening. A few changes are positive, such as a likely ban on plowing in Natura 2000 areas (nature protection areas established under the 1992 Habitats Directive). But overall, in comparison to the original Commission proposals, the environmental focus under Pillar I has been diluted substantially through exemptions and other changes.

In the United States, public spending on agriculture is regulated by the Food Conservation and Energy Act 2008-2012, commonly known as the Farm Bill. Measures for environmental protection are mostly included under the Conservation Title of the Farm Bill. While land retirement towards conservation uses has been the largest environmental aspect of the US farm policy in the past, recently environmental protection of agricultural lands themselves is also becoming a larger priority and is done through incentives for producers to adopt practices that reduce environmental problems. Prior to 2010, subsidies for biofuel crops were greatly increased, but were already being scaled back as of 2011. On February 7, 2014 President Obama signed the Agriculture Act of 2014 into law, replacing the Food Conservation and Energy Act 2008-2012 which had been extended through September 2013. Most notably, the Agriculture Act of 2014 eliminates direct payment subsidies to farmers, which amounted to approximately USD5 billion a year paid to farmers whether or not crops were grown. Money was reallocated to programs such as government-subsidized crop insurance, which covers losses from poor yields or declines in revenue.

China has had a long term trend of growth in agricultural subsidies, largely in support of their aim to reach 95% self-sufficiency in grains by 2020. The OECD estimates the 2010 agricultural subsidies at about USD 172 billion, more than double 2008 levels, which would put it above the EU and the US in terms of absolute public spending on agriculture. While input subsidies that can create incentives to overuse resources and increase the rate of land degradation continue, China has some subsidies with environmental goals, such as payments for returning farmland to forest in fragile areas. In 2008 these environmentally-minded programs were around USD 10 billion, but due to uncertainty in grain security they are believed to have declined in favor of extensification.

Much of India’s domestic support for agriculture focuses on obtaining maximum self-sufficiency in grains and alleviating poverty. At USD 48 billion, support is still very low on a per-capita basis relative to developed countries. In 2008 the government released a National Action Plan on Climate Change that included a mission on sustainable agriculture focused on adaptation, although genetically engineered crops and soil carbon sequestration are identified as strategies for mitigation.

Brazil has been increasing their level of agricultural support, in particular their general services for extension and advisory services, but at USD 10 billion subsidies are very low relative compared to their agricultural GDP and other developed-country spending. The OECD has noted that the country increasingly includes environmental and sustainability criteria in their support programs, as well as specific programs that provide extra credit for sustainable practices. For example, their Low-Carbon Agriculture program (ABC) that provides loans for farmers to engage in specific low-carbon farming activities, but it has been criticized for slow uptake and as it also includes activities that do not necessarily reduce emissions, such as growing paddy rice or following organic practices.
Box 1: Agricultural subsidies and climate change mitigation

The use of domestic policy instruments for agriculture in response to climate change poses challenges for the international trading system. A key issue is the extent to which mitigation measures are consistent with existing international trade disciplines. There are a range of domestic policy measures that are used to achieve GHG mitigation, including taxes (levies on inputs or outputs linked to the contribution to GHG emissions), subsidies (generation and adoption of GHG-reducing technologies or compensation for losses associated with climatic events), and regulations (production processes, product standards, or mandates on the use of lower-emission substitutes). Payments under environmental schemes can also be linked to the promotion of mitigation activities, and standards such as carbon labeling initiatives—the majority of which are private voluntary standards by retailers—can estimate the amount of carbon generated in the production, processing and transportation of a given food product. Still, such domestic policy initiatives for agricultural mitigation require appropriate monitoring to avoid restrictions on or distortions of the international trading system, and there is currently a lack of consensus on appropriate monitoring methods.

There is overall very limited agricultural mitigation currently being targeted in domestic subsidies for agriculture. Many countries, including the EU and the US, have incentives in place for certain practices that reduce agricultural GHG emissions. The EU, Mexico, Norway, and Chile currently have more explicit government programs for agricultural mitigation being developed while Brazil, New Zealand and Australia already have ones in place.

C. Foreign assistance

Following a long-term decline, agricultural assistance has been increasing as a consequence of the food crisis of 2007/08 and the resulting attention to agricultural development and food security. Gross disbursements reached nearly USD 8 billion in 2011.\(^{28}\) Assistance is focused on Africa receiving approximately half of total assistance, mostly Sub-Saharan Africa and South East Asia, and predominantly originates from a few key donors.

**Figure 3**: Major donors of agricultural ODA and philanthropic assistance, gross disbursement in million USD (2011 constant prices), 2011 data.\(^ {29}\)

Important **multi-donor initiatives** emerged in response to the global food crisis. In 2009, the G8 and five other donors launched the L’Aquila Food Security Initiative, with an initial pledge of more than USD 22 billion, including USD 6.1 billion of additional financing within three years. Of this pledge, 42\% was specifically targeted at the agricultural sector, equivalent to about USD 9 billion.\(^{30}\) By December 2012, the share of disbursements had reached two thirds.\(^{31}\) The L’Aquila

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\(^{29}\) Ibid; For the International Fund for Agricultural Development, only commitment data was available, which is for most donors higher than gross disbursement.

Initiative resulted in a new implementation mechanism, the Global Agriculture and Food Security Program launched in 2009 to finance country-led programs for long-term agricultural development with a pledge of USD 1.3 billion. Another initiative important for agriculture is the Global Donor Platform for Rural Development, founded in 2003 “to increase and improve the quality of development assistance in agriculture, rural development and food security.”33 It comprises a network of 34 bilateral and multilateral donors, international financing institutions, intergovernmental organizations and development agencies.33 While its initial role was to coordinate aid among donors, it has grown to advocate for best-practice agriculture and rural development interventions and facilitate knowledge exchange between its members.34 In conjunction with the Consultative Group on International Agricultural Research it created the Commission on Sustainable Agriculture and Climate Change to research policy changes to achieve food security in light of climate change, with some focus on agriculture mitigation as well.35

The role of private donors is increasingly important for agriculture, especially the Gates Foundation with a strong focus on Africa. The Foundation Center (2013) reports the total amount of international grants for agricultural development at roughly USD 450 million in 2011. Other important foundations for agriculture include the Rockefeller Foundation, the Ford Foundation, the Howard G. Buffet Foundation (HGBF), and the Kellogg Foundation. The HGBF, for instance, spent close to USD 70 million (qualifying distributions) with around two thirds (65%) of contributions for food security, a category formerly defined as agricultural development and nutrition.3637 The World Bank, the G20, and the Canadian, American and German governments amongst others have all sought to increase private-public partnerships and private sector investment in their recent agricultural aid strategies.38


36 Numbers extracted from graph.


Box 2: Assistance for climate change mitigation and adaptation

In 2011 more than USD 500 million of bilateral assistance to the agriculture sector was targeted at climate change mitigation as a ‘principal’ or ‘significant’ objective, with EU institutions, Norway, Belgium, and France as the largest donors in these categories (e.g. EU institutions). While most donor institutions focus on agricultural adaptation and climate-smart development more generally, several donor institutions also include mitigation as a priority objective in their overall agricultural aid strategies.

Developed countries have acknowledged the need to support adaptation and mitigation activities in developing countries, and under the 2009 Copenhagen Accord agreed to provide USD 30 billion in “fast start finance” during 2010-2012. Between 2010 and 2012, USD 35 billion of fast start finance was mobilized, exceeding the original commitment. Of the overall fast start finance commitment, agriculture accounted for USD 745 million, equivalent to 2.5%.

A number of dedicated funds provide financing for climate-related activities in the agriculture sector, e.g. the Global Environment Facility Fund and the Pilot Program for Climate Resilience. The focus of climate finance for agriculture has been on adaptation, but new developments suggest a shift towards integrated approaches. For instance, climate-smart agriculture emerged as a new funding priority in the draft financing strategy for the 6th replenishment of the Global Environment Facility fund. Significantly higher funding volumes are anticipated from the future Green Climate Fund, a new financial mechanism under the United Nations Framework Convention on Climate Change with an expected annual disbursement of USD 100 billion until 2020. Another relevant initiative is the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD) program, supporting nationally-led processes and efforts to reduce emissions from deforestation and forest degradation in developing countries. As of June 2013, total funding for REDD amounted to USD 172.4 million. Multilaterals also provide an important source of grant-based climate finance, such as the Climate Finance Funds of the Regional Development Banks and the World Bank that supports pilot activities for low-emissions and climate-resilient development. Under this program, the most relevant initiative for agriculture is the Pilot Program for Climate Resilience, with a strong focus on adaptation. Examples of other relevant climate-related agricultural initiatives include the World Bank’s Forest Carbon Partnership Facility and the African Development Bank’s Congo Basin Forest Fund.

D. Foreign investment

Data on foreign direct investment (FDI) in the agricultural sector is limited and has large gaps and inconsistencies. As a result, estimates vary significantly depending on the data source and few conclusions on trends and direction of flows can be made. Compared to domestic investment or the revenues of large private corporations, the financial contribution from foreign investors in the agricultural sector is small. Based on United Nations Conference on Trade and Development, in 2008, the total flow of agricultural FDI for the 44 countries reporting was USD 5 billion (current prices). Investments more than doubled between 2005 and 2008, attributed to the food price crisis, yet this increase was largely confined to upper-middle and high-income countries. Another source, the FDI markets database, which covers all activities related to food, beverages and tobacco, estimates investments at over USD 25 billion (current prices) in 2009 and USD 13 billion in 2011. Based on this dataset, agriculture has seen a massive increase in FDI as a consequence of the food crisis, but the trend seems to have reversed based on more recent 2011 estimates. Highquest Partners (2010), in a survey of 25 private, institutional investors focused on primary production, detected increasing demand and high potential for growth in agriculture and estimates that investment is at a range of 10 to 25 billion USD per year.

Based on the FDI markets data for 2003-2011 Europe was the main source (USD 70 billion) and destination (USD 53 billion) of investments, followed by the Americas (mainly the US) as the second largest source. Intra-regional investment is increasingly important, especially in Asia and South America. The third largest source of investment was Asia (USD 35.5 billion), mainly Japan, China, Saudi Arabia and Thailand. China was the largest recipient of investment in Asia (around USD 14 billion) followed by smaller flows to other countries, such as India (USD 6 billion), Vietnam, Turkey and Indonesia. Africa received approximately 8% of global agricultural FDI. The HighQuest Partners survey concludes that while historically, private institutional investment was focused on the US, Canada, Australia and New Zealand, more recently their sample indicates a noticeable shift towards South America, with Brazil as the “largest frontier for new farmland development”, and Africa.

The Land Matrix project provides some indication of foreign investment in agricultural lands and sheds light at the controversial ‘land-grabbing’ by compiling data on large-scale land acquisitions. Out of 27.5 million hectares of land acquisitions for agricultural use, more than half were concluded (but not necessarily implemented) in Africa (14.5 million hectares), followed by Asia (5.6 million hectares) and Oceania (2.3 million hectares). A recently updated version of the database suggests that the phenomenon of land-grabbing was overestimated as concluded deals can turn out much smaller than initially intended and reported. However, FAO notes that there is evidence that many deals remain unreported, therefore to some extent balancing deals that never or only partially come to fruition. Researchers of the Land Matrix project also observe a trend of hidden foreign investments through contract farming or foreign stakes in local businesses.

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