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Foreign Assistance and the Food Crisis of 2007–08

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Abstract

Dramatically increased international agricultural commodity prices from 2007 to mid-2008 brought food inflation and greater incidence of poverty and malnutrition to developing countries. Higher food prices in 2011 threaten to repeat that crisis. The international community responded strongly to these concerns in 2008 and 2009, promising greater financial support for food aid, safety nets, and agricultural development. The focus of international dialogue differed somewhat from the priorities of national governments, and the objectives of national governments mostly targeting short-run responses to both food security and agriculture prevailed. But a long-run trend of declining foreign assistance to agriculture appears to have reversed. Nevertheless, foreign assistance was small relative to promises made by donors, increased grain and fertilizer import costs, budgetary costs of mitigating policy responses, an investment .../.

Keywords: foreign assistance, food crisis, agricultural development, food aid, safety nets, aid effectiveness, international commodity prices

JEL classification: O13, O19, Q11, Q18

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costs needed to accelerate agricultural production. Both food aid and agricultural development projects have in the past come under the criticisms found in the aid effectiveness debate. Issues to be addressed if renewed efforts toward agricultural development and food aid are to be effective are explored here. High returns to agricultural research require that enabling institutions are developed. National ownership and governance of initiatives that share donor objectives focusing on poverty and long-run development are critical to success.

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Acronyms

| | |
|--------|---|
| CAADP | Comprehensive Africa Agriculture Development Programme |
| CGIAR | Consultative Group on Agricultural Research |
| FAO | Food and Agriculture Organization of the UN |
| GAFFSP | Global Agriculture and Food Security Programme |
| GFRP | Global Food Crisis Response Programme (of the World Bank) |
| ODA | overseas development assistance |
| SSA | sub-Saharan Africa |
| UNHLCF | UN High Level Task Force on Food Security |
| WFP | World Food Programme |

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1 Introduction

In 2007 and 2008 international agricultural commodity prices rose dramatically, and then fell even more quickly as the recession and financial crisis spread worldwide. In early 2011 international food price indices (e.g., the IMF food index) had reached 2008 peak levels once again, but a somewhat different pattern of commodity price changes had occurred. Figure 1 presents the evolution of grain prices, those most critical to food security, from 2000 to 2011, as well as the IMF food index (IMF 2011). It shows the price of corn peaking at nearly three times the level realized in the early part of the last decade both in mid-2008 and again in 2011. The price of rice increased by nearly a factor of 5 in mid-2008, but is at only 65 per cent of that earlier peak in early 2011, and has been flat since falling in 2008. Wheat exhibited a peak similar to corn in 2008, and is like rice in 2011, but with a period of quite low wheat prices in between. Some agricultural commodities that did not rise so much in 2008 are realizing high peaks in 2011 (e.g., sugar, cotton, coffee, cocoa). Food security is most sensitive to the prices of food grains—wheat and rice price increases from 2006 to mid-2008 gave rise to the concern that a crisis existed in meeting world food needs. There is less concern that the 2011 price increases constitute a food crisis. Food grain prices have increased less than in the 2007-08 crisis, while prices of developing countries' agricultural export crops increased much more in 2011.

Agricultural commodity price increases were a lagging part of a commodity boom in which crude oil prices also increased. The oil crisis of 2008 also impacted on developing countries in numerous ways, and reached agriculture by bringing dramatic increases in fertilizer costs. Figure 1 shows that fertilizer prices, represented there by urea, followed crude oil prices in the initial part of the boom. They spiked to 8-times the levels realized earlier in the decade, complicating strategies to increase agricultural production in the face of high prices. In 2011 fertilizer prices have followed rising crude oil prices once again. High fertilizer prices limit the agricultural supply response brought on by high food prices.

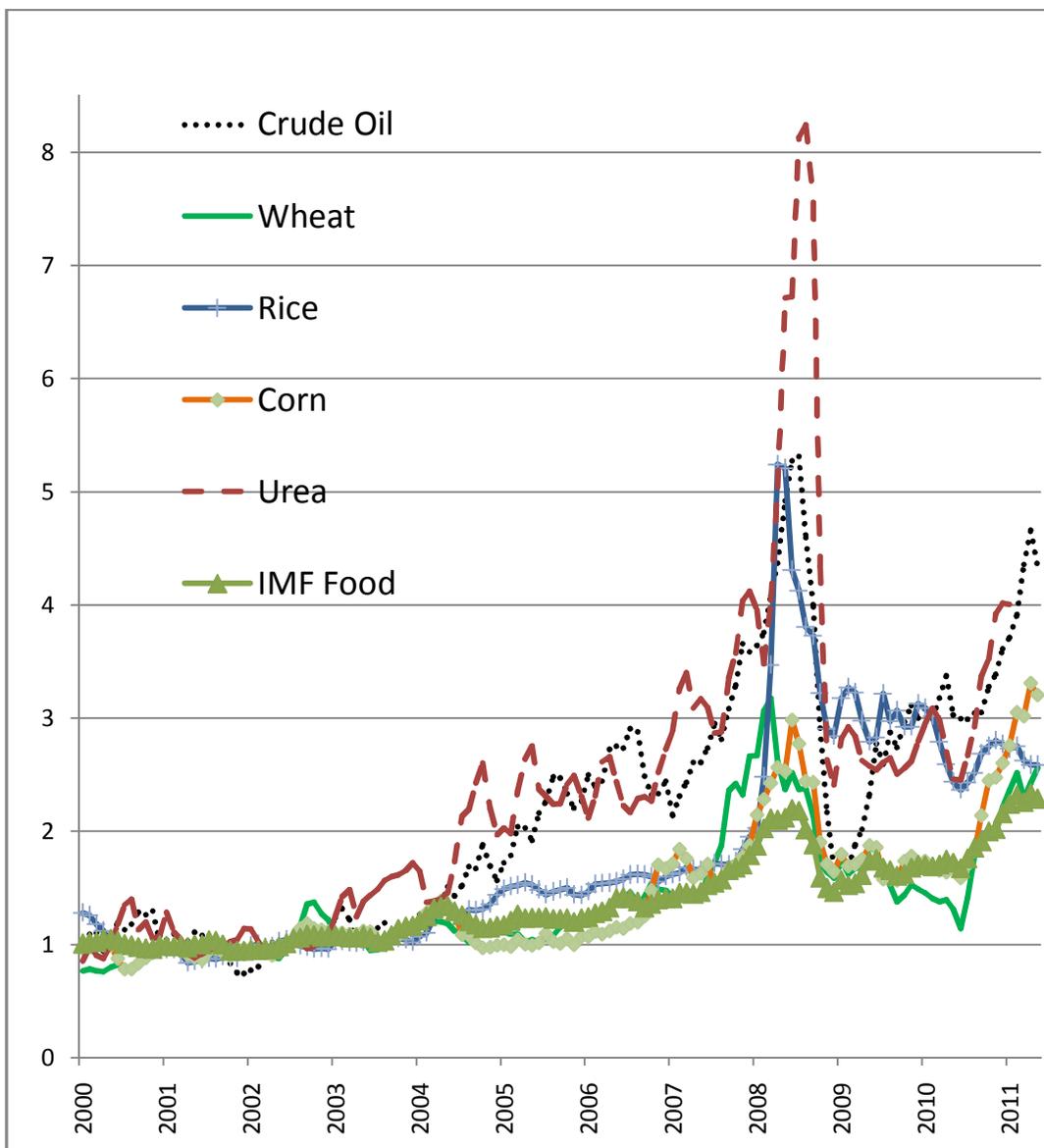
The 2007-08 food crisis increased the incidence of poverty and caused greater malnutrition throughout the world. The World Bank (Ivanic and Martin 2008) estimate that more than an additional 100 million people fell below their one-dollar per day standard for extreme poverty, and puts that increase in extreme poverty at 44 million people in 2011 (World Bank 2011). The Food and Agriculture Organization of the UN (FAO 2008) and the US Department of Agriculture (Rosen and Shapouri 2008) estimate independently that between 60 to 110 million more consumers could no longer purchase adequate diets. Food inflation and consequently general inflation accelerated to varying degrees, and more so in developing countries (OECD-FAO 2008). The World Food Programme (WFP) recognized early on that high commodity prices could lead to fewer food aid donations to help maintain safety nets for the malnourished (WFP 2009a). Political unrest has been linked to the food crisis of 2007-08 as well as to recent increases in international commodity prices (Trostle 2008).

The IMF Africa Department (2008) investigated fiscal and foreign exchange impacts of the food crisis, oil crisis and commodity boom. Diverse impacts were found, depending on whether the country was a net oil importer or exporter, and if a country's commodity

exports benefited from higher prices. Many cases were found where the trade balance impact exceeded either 2.5 per cent of GDP or 50 per cent of initial foreign reserves. They also found that the food price increases hit the poor hardest, while oil price increases affected macroeconomic outcomes more.

The international community responded strongly to these concerns in 2008 and early 2009, and promised substantial additional resources to help assure food security in poor nations. Donors exceeded substantially the request for an additional US\$850 million from the WFP, helped by a donation of US\$500 million from Saudi Arabia. This allowed the WFP to increase rather than reduce the number of beneficiaries served (WFP 2010). Discussions on

Figure 1
International agricultural, crude oil and fertilizer prices, 2000–11



Source: Indices constructed from data in IMF (2011).

assistance to agriculture reached the level of G8 meetings, both right after the crisis and again in 2011 under the French G8/G20 presidency (G8/G20 France 2011). In their earlier meetings, and specifically at La Quila, Italy in 2009, G8 countries promised an additional US\$22.4 billion to foster more rapid agricultural development in third world countries. While commitments have not matched promises, there are nevertheless renewed efforts to foster agricultural development, including USAID's Feed the Future initiative (USAID 2011), the European Union Food Facility (FAO 2011a), and the Global Agriculture and Food Security Programme (GAFSP) that hopes to coordinate international efforts under the auspices of the World Bank (GAFSP 2011).

The international response to the 2007-08 food crisis employed a two-pronged approach as outlined by the UN High Level Task Force on Food Security (UNHLTF 2008). That approach advocated support for better safety nets for the poor in the short run, and financing to accelerate agricultural development in the medium to long run. Foreign assistance was to play an important role in both prongs. Food aid would backstop safety nets while development projects would refocus on agriculture. But developing countries also asked the World Bank's early effort, the GFRP, to provide budget support to cover lost 'fiscal space' from protecting urban populations from the immediate effects of the crisis rather than food aid or agricultural development assistance (World Bank 2011). Developing country strategies emphasized a third prong—short-run market interventions to mitigate broad impacts, especially on consumers, of higher world prices (Abbott 2009).

Both food aid and agricultural development projects have come under the criticisms found in the aid effectiveness debate (Herdt 2010; Awokuse 2011). The share of support for agriculture in overall development had shrunk from 25 per cent in the mid-1980s to less than 4 per cent by 2006 (OECD 2011). Responses to the 2007-08 crisis raised this share to 5.3 per cent by 2009, a reversal of direction that leaves agricultural assistance still at levels well below those realized earlier. As enthusiasm for increased assistance to agriculture arose during the crisis, some donors expressed the same scepticism that had led to this earlier decline in foreign assistance to agriculture. Food aid has also come under criticism that has led to numerous revisions in food aid programmes since its inception more than 50 years ago (Barrett and Maxwell 2005). Best practices recommendations for safety nets prefer conditional cash transfers over food aid, but political realities have kept food aid programmes alive (Stewart 1986; Fiszbein and Schady 2009; Sabates-Wheeler and Devereux 2010).

In this paper I explore the criticisms that have been raised with both food aid and agricultural development assistance in light of debates on aid effectiveness. I also consider how both food aid and agricultural development assistance fit into strategies to address the recent food crises and food security issues in developing countries today. Best practices for foreign assistance to agriculture and nutrition are reconsidered in the light of the recent dramatic events in world food markets. Recent history on foreign assistance and the food crisis are examined first, followed by evaluations of aid effectiveness for agricultural development, food aid and safety nets, and issues raised by those evaluations relevant to post-food crisis aid.

2 International responses to the food crisis

2.1 International dialogue, promises and the global partnership

Events in the world food markets in 2007 and 2008 brought international dialogue led by UN agencies aimed at committing a response by developed countries to mitigate the impact of that crisis on developing countries. Discussions included G8 and now G20 summits and conferences organized principally by those UN agencies. Some of these ‘high level’ meetings were:

- The Rome Food Summit in June 2008 (the High-Level Conference on World Food Security: The Challenges of Climate Change and Bioenergy);
- G8 Summit (Hokkaido) July 2008;
- UN MDG High Level Summit (New York), September 2008;
- Madrid Food Summit, January 2009;
- L’Aquila G8 Summit (Italy), July 2009;
- OECD/FAO High Level meeting on Investing in Food Security (Paris), May 2009
- FAO High-level Expert Forum: How to Feed the World in 2050 (Rome), October 2009
- World Summit on Food Security (Rome), November 2009
- Deauville G8 Summit (French Presidency of G8/G20), May 2011;
- Paris G20 Agriculture Ministers meeting, June 2011, leading to Cannes G20 Summit, November, 2011.

The Rome Food Summit resulted in a global commitment to food security and agriculture of US\$18.36 billion as of June 2008, at the height and the end of the food crisis. Table 1 was compiled by Abbott and Borot de Battisti (2011) to show the details of those early promises. At the G8 Summit in L’Aquila a somewhat larger commitment of more than US\$20 billion over three years was made, although it was subsequently acknowledged that not all of that commitment was ‘new money’.

One goal of the international dialogue was to establish a ‘global partnership’ that would more effectively implement aid to agricultural development. The long-term decline in assistance to agriculture and need for renewed efforts were acknowledged at those meetings, along with some of the controversy on best practices to develop agriculture. On a technical level, proposals to establish a ‘green revolution’ for African agriculture and for input intensive solutions were criticized by participants seeking more environmentally sustainable options. Global governance was also key, and seen as a problem with existing strategies to agricultural development that were fragmented, duplicative and poorly focused. The intent of the Global Partnership was to address these concerns in the context of the Paris Declaration, recognizing the importance of national government ownership of agricultural initiatives.

Table 1
Global responses to the food crisis of 2008–09
Promises

| | Committed as of mid- 2009 | Framework |
|------------------------------------|------------------------------|--|
| United Nations | | |
| WFP | \$1 billion | \$755 million Emergency Funding Appeal |
| FAO | \$1.7 billion | Soaring Food Prices Initiative |
| UN Central Emergency Response Fund | \$100 million | Set aside of existing funds, announced at the 2008 Food Summit |
| IFAD | \$200 million | Reallocation from existing loans and grants |
| Development banks | | |
| World Bank | \$2 billion | Global Food Crisis Response Programme |
| African Development Bank | \$1 billion | African Food Crisis Response |
| Asian Development Bank | \$500 million | |
| Islamic Development Bank | ? | \$1.5 billion announced at the 2008 Food Summit |
| Inter-American Development Bank | \$2 billion | |
| Bilateral donors | | |
| European Union | 1 billion euros | Food Facility Plan |
| France | ? | \$1.5 billion announced at the 2008 Food Summit |
| Japan | \$1.5 billion | \$150 million announced at the 2008 Food Summit |
| Korea | \$100 million | |
| Kuwait | ? | \$100 million announced at the 2008 Food Summit |
| Netherlands | ? | \$75 million announced at the 2008 Food Summit |
| New Zealand | ? | \$7.5 million announced at the 2008 Food Summit |
| Spain | \$200 million | \$773 million announced at the 2008 Food Summit |
| United Kingdom | ? | \$590 million announced at the 2008 Food Summit |
| United States | \$1.5 billion | \$5 billion announced at the 2008 Food Summit |

Source: This table originally appeared in Abbott and Borot de Battisti (2011), and is reproduced here by the author as part of copyright agreement with Oxford Journals.

The UNHLTF(2008) played a lead role in defining the global partnership. Multilateral organizations including various UN agencies, the World Bank and the OECD also sought a leadership role in managing these new investments in developing-country agriculture. Competition among various implementing entities, including private initiatives (e.g., AGRA (2009) and the MDG Centre (Ad Hoc Advisory Group 2009)), led to efforts to establish a financial coordination mechanism. Ultimately, the Global Agriculture and Food Security Programme (GAFSP) was established under the auspices of the World Bank in September 2009 as a result of that initiative, and as of April 2011 had pledges of US\$925 million from various donors (GAFSP 2011). Other development banks also promised greater attention to agriculture, as seen in their increased commitments shown in Table 1. In mid-2008 the Asian, African, Islamic and Inter-American Development Banks had promised an additional US\$4 billion to agriculture and food security.

Several multilateral and bilateral initiatives were also launched to address the 2007-08 food crisis. These included:

| | | | |
|---|------------|---|---------------|
| – | FAO | Initiative on Soaring Food Prices | December 2007 |
| – | World Bank | Global Food Crisis Response Programme(GFRP) | May 2008 |
| – | African DB | African Food Crisis Response | July 2008 |
| – | EU | Food Facility | December 2008 |
| – | USAID | President’s Food Security Response Initiative | June 2008 |
| – | | Feed the Future | July 2009 |

The WFP also took a leading role in responding to the 2007-08 food crisis, recognizing early on that the high prices would severely strain its budgetary resources (WFP 2009a and 2010). It launched an appeal for greater funding for food aid that was oversubscribed, thanks in part to the US\$500 billion donation by Saudi Arabia. Those contributions would allow the WFP to increase the number of recipients served, although they note that the 102 million beneficiaries they served were only 10 per cent of the over one billion estimated undernourished people. While WFP efforts emphasized food aid and safety nets, other initiatives addressed agricultural development, if with a short-term focus.

2.2 Disconnect between donors and national governments

In 2007 and 2008 developing countries adopted numerous measures to mitigate the effects of higher international agricultural commodity prices. These included trade and market interventions, bolstering safety nets, and actions to augment food production. Table 2

Table 2
Policy measures commonly adopted worldwide (as of December 2008)

| | Africa | Asia | Latin America | Overall |
|--|--------|------|---------------|---------|
| Countries surveyed | 33 | 26 | 22 | 81 |
| Market interventions | | | | |
| Trade policy | | | | |
| – Reduction of tariffs and customs fees on imports | 18 | 13 | 12 | 43 |
| – Restricted or banned exports | 8 | 13 | 4 | 25 |
| – Domestic market measures | | | | |
| – Suspension/reduction of VAT or other taxes | 14 | 5 | 4 | 23 |
| – Released stocks at subsidized prices | 13 | 15 | 7 | 35 |
| – Administered prices | 10 | 6 | 5 | 21 |
| Production support | | | | |
| Production support | 12 | 11 | 12 | 35 |
| Production safety nets | 6 | 4 | 5 | 15 |
| Fertilizer and seed programmes | 4 | 2 | 3 | 9 |
| Market Interventions | 4 | 9 | 2 | 15 |
| Consumer safety nets | | | | |
| Cash transfers | 6 | 8 | 9 | 23 |
| Food assistance | 5 | 9 | 5 | 19 |
| Increase disposable income | 4 | 8 | 4 | 16 |

Source: Adapted by author from Demeke, Pangrazio and Maetz (2008).

summarizes the findings of an FAO study on policy responses by developing countries (Demeke, Pangrazio and Maetz 2008). That study shows trade policy interventions in most of the 81 countries surveyed that represented a diverse mix of developing countries. It also shows extensive use of domestic measures, including stocks releases, tax cuts, subsidies, administered prices and support for safety nets. While food aid was used to support safety nets in 19 countries, 23 countries used cash transfers and 16 countries used unspecified methods to raise disposable income of vulnerable consumers. These measures show more emphasis on consumers broadly, on social protection, and on market outcomes than do the measures proposed by UNHLTF that targeted poverty and small farmers (Abbott 2009).

Table 3
World Bank Global Food Crisis Response Programme (GFRP) projects

| | \$ millions | |
|--------------------------|----------------|--|
| Djibouti | 5 | Reducing food taxes, improved social protection targeting |
| Liberia | 10 | Infrastructure, seeds, school feeding and nutrition programmes |
| Haiti | 15 | Budget support, farmer extension, agriculture sector reform |
| Kyrgyz Republic | 10 | Seeds, safety nets, and nutrition programmes |
| Tajikistan | 9 | Seeds, nutrition programme |
| Yemen | 10 | Safety nets programme |
| Afghanistan | 8 | Irrigation |
| Sierra Leone | 10 | Import tariff reduction; safety net programme |
| Honduras | 10 | Budget support |
| Moldova | 7 | Safety nets, nutrition programmes |
| Burundi | 10 | Import tariff reduction, school |
| Rwanda | 10 | Fertilizers |
| Madagascar | 22 | Budget support; safety nets |
| Central African Republic | 7 | School feeding, inputs, agricultural extension, infrastructure |
| Niger | 7 | Fertilizers |
| Somalia | 7 | Inputs (e.g., seeds and fertilizers), irrigation, livestock |
| Guinea | 10 | Import tariff reduction, safety net programme, inputs |
| Guinea-Bissau | 5 | School feeding, safety nets, inputs |
| Nepal | 83.8 | Safety nets, seeds, fertilizers and access to nutritious food |
| Southern Sudan | 5 | Seeds and other inputs |
| Togo | 7 | School feeding, agricultural production |
| Mozambique | 20 | Budget support |
| Benin | 9 | Fertilizers |
| Bangladesh | 130 | Budget support |
| West Bank and Gaza | 8.4 | Safety nets |
| Philippines | 200 | Social protection |
| Ethiopia | 275 | Fertilizers, safety nets |
| Mali | 5 | Budget support |
| Laos | 5 | Seeds; safety nets |
| Nicaragua | 17 | School feeding, seeds |
| Kenya | 55 | Social protection; inputs |
| Senegal | 20 | School feeding and nutrition; Inputs, irrigation, infrastructure |
| Tanzania | 220 | Inputs, irrigation, safety nets |
| Cambodia | 5 | Budget support |
| Comoros | 1 | Safety nets |
| TOTAL | 1,238.2 | |

Source: Information in this table is from World Bank (2011).

Headey (2011) argues that these measures to mitigate the effects of global price increases protected consumers in many cases, so that food security assessments after the fact show smaller consequences than the simulation modelling predictions of the World Bank, FAO and USDA suggest. Those policy measures proved costly to governments, however, as tariff and tax revenue fell while food security and programme costs increased (Abbott 2009).

One of the early and more comprehensive responses to the food crisis was the World Bank's GFRP programme. Table 3 indicates the types of programmes funded by the World Bank. Administrators of that programme observed that their mix of activities reflects both their priorities in setting up the programme and the desires of recipient governments. Budget support, to cover lost tariff revenue and the costs of safety nets, was prominent in the requests to the World Bank. The short-term nature of responses is also evident, even for agricultural development. The greatly increased cost of fertilizer on international markets prompted the GFRP, FAO's Soaring Prices Initiative, and other initiatives to include support to cover the high cost of fertilizer. No GFRP project included funding for agricultural research. Mousseau (2010) notes that these early initiatives also funded purchases and imports of improved seed from off-the shelf technology, but were less forthcoming on financing longer-term agricultural research to develop appropriate seeds and other technical innovations. Safety nets were also important components of projects supported by GFRP and by other early initiatives. It is clear that much of the international support that national governments preferred was directed at surviving a crisis.

2.3 Commitments subsequent to the crisis

Following the logic of the UNHCTF two-pronged approach, foreign assistance commitments included additional food aid and increased investments in agricultural development. There were also expenditures on budget support as a consequence of actions taken by developing-country governments under their third market intervention prong, principally from the World Bank and the IMF. Commitments can be compared to subsequent donations and expenditures using OECD's (2011) data on overseas development assistance (ODA), and from budgetary reporting by the important donors and multi-lateral organizations. It is much easier to examine spending on food aid and agriculture with that data than it is to identify funding beyond food aid to support safety nets and budgetary support to make up lost 'fiscal space'. The annual expenditures reported on budget support include donations to help with global recession and financial crisis in late 2008 and 2009 that followed the food crisis, as well. Timeframe is often an issue here, as well, since ODA and expenditures are reported on a per calendar year basis, whereas many of the commitments cover expenditures over multiple years.

Table 4 reports the recent history of food aid donations via the WFP as well as from bilateral donors mostly through 2010. It shows the dramatic increases in food aid donations to the WFP, from about US\$2.7 billion in 2006 and 2007 to \$5 billion in 2008, falling back to US\$3.8 billion in 2010. Overall food aid increased to US\$5.5 billion in 2008, and fell back to US\$5.3 billion in 2009. The increased value of donations reflected high commodity

Table 4
Food aid via the WFP and overall

| World Food Programme (WFP) | | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|----------------------------|------------|------|------|------|-------|-------|-------|
| Donations | \$billions | 3.05 | 2.70 | 2.72 | 5.05 | 4.01 | 3.83 |
| USA | | 1.17 | 1.12 | 1.18 | 2.08 | 1.75 | 1.56 |
| EC | | 0.26 | 0.27 | 0.25 | 0.36 | 0.34 | 0.29 |
| Saudi Arabia | | 0.03 | 0.03 | 0.01 | 0.50 | 0.02 | 0.04 |
| Expenditures | \$billions | 2.89 | 2.67 | 2.75 | 3.54 | 3.99 | |
| Beneficiaries | millions | 96.7 | 87.8 | 86.1 | 102.1 | 101.8 | 109.2 |
| Food distributed | mmt | 4.20 | 4.00 | 3.30 | 3.90 | 4.60 | 4.60 |
| Overall food aid | mmt | 7.93 | 6.67 | 5.77 | 6.22 | 5.48 | |
| | \$billions | 3.76 | 3.44 | 3.33 | 5.48 | 5.29 | |

Source: WFP(2010 and earlier); WFP (2011).

prices, as the number of beneficiaries served by WFP increased from 86 million in 2007 only to 102 million in 2008, and has increased afterwards as prices fell. The WFP did not immediately spend its 2008 donations. Both the quantity of food aid delivered by the WFP, and overall, increased in 2008 from a low 2007 level. In 2009 the WFP's share of food aid delivered increased, as it increased quantity delivered but bilateral distributions fell. While the long-term declining trend of quantities of food aid donated appears to be resuming, the WFP now plays a larger role, and increased donations during the crisis allowed high food prices to be paid—contrary to earlier periods of high prices. Both high food prices and drought in the horn of Africa have led to appeals for greater donations in 2011. As of August 2011 the WFP had received donations of only US\$2.7 billion to fund operational commitments of US\$4.5 billion (WFP 2011), hence they may not repeat that performance.

Actual commitments to foreign assistance overall and specifically to food security and agriculture can be examined through 2009 on the OECD database on Overseas Development Assistance (ODA) (OECD 2011). Table 5 presents overall ODA, aid to agriculture, food aid, nutrition aid and budget support. It also presents financial flows from development banks reported as 'other official flows to agriculture'. Table 6 presents average foreign assistance for 2005-06 and increases from those levels in 2008 and 2009.

Overall ODA increased substantially in 2008 and 2009 in response to both the food crisis and later global economic crises. Total annual ODA was around US\$130 billion in 2006 and 2007, and increased to over US\$153 billion in 2008 and 2009. Aid to agriculture made up only 3.2 per cent of ODA in 2006 and increased to 5.3 per cent or US\$8.4 billion by 2009. While this is roughly one-third of the three-year pledge made at the L'Aquila G8 meeting, the US\$2.5 billion increase in annual spending from 2007 is much less than the US\$20 billion promise. Aid to agriculture had already begun to increase in 2007, so assistance in 2009 was US\$4.3 billion higher than the 2005-06 annual average. Food aid in 2006 and 2007 equalled 2.6 per cent of ODA, and realized a similar increase in annual spending over 2007, at about US\$2 billion. Aid to nutrition projects increased from about US\$0.33 billion in 2007 to US\$0.52 billion in 2009.

Table 5
Overseas Development Assistance around the food crisis
(in \$ millions)

| | 1995 | 2000 | 2005 | 2006 | 2007 | 2008 | 2009 |
|--|--------|--------|---------|---------|---------|---------|---------|
| Overseas development assistance (ODA) | | | | | | | |
| Total | 47,583 | 57,160 | 123,694 | 130,014 | 128,669 | 153,400 | 158,831 |
| to Sub-Saharan | 11,923 | 17,189 | 38,189 | 46,246 | 40,824 | 47,313 | 53,284 |
| To agriculture | | | | | | | |
| All donors | 3,749 | 2,606 | 4,019 | 4,142 | 5,909 | 6,665 | 8,383 |
| | 7.9% | 4.6% | 3.2% | 3.2% | 4.6% | 4.3% | 5.3% |
| US | 161 | 368 | 731 | 600 | 1,214 | 1,495 | 1,397 |
| EC | 258 | 209 | 166 | 331 | 378 | 605 | 1,766 |
| IDA | 1,175 | 417 | 678 | 893 | 1,261 | 1,440 | 1,760 |
| IFAD | 247 | 186 | 139 | 153 | 224 | 239 | 314 |
| Sub-Saharan | 1,331 | 1,054 | 1,236 | 1,605 | 2,248 | 2,238 | 3,166 |
| South Asia | 801 | 438 | 1,039 | 903 | 1,460 | 1,250 | 1,470 |
| Latin America | 222 | 358 | 555 | 486 | 587 | 587 | 648 |
| Far East | 903 | 388 | 484 | 275 | 782 | 577 | 478 |
| Middle East | 52 | 76 | 153 | 135 | 200 | 257 | 327 |
| Unspecified recipient | 101 | 83 | 316 | 256 | 293 | 875 | 1,492 |
| To Food aid | | | | | | | |
| All donors | 1,043 | 2,222 | 3,760 | 3,438 | 3,333 | 5,479 | 5,288 |
| | 2.2% | 3.9% | 3.0% | 2.6% | 2.6% | 3.6% | 3.3% |
| US | 306 | 1,209 | 2,284 | 1,986 | 1,737 | 2,777 | 2,554 |
| EC | 217 | 579 | 615 | 599 | 621 | 806 | 832 |
| Sub-Saharan | 440 | 744 | 2,677 | 2,218 | 2,234 | 3,511 | 3,496 |
| South Asia | 182 | 359 | 462 | 435 | 386 | 830 | 657 |
| General budget support | | | | | | | |
| All donors | 3,535 | 4,136 | 4,165 | 4,729 | 4,361 | 8,776 | 8,683 |
| | 7.4% | 7.2% | 3.4% | 3.6% | 3.4% | 5.7% | 5.5% |
| US | 1,200 | 121 | 453 | 380 | 391 | 506 | 311 |
| EC | 566 | 923 | 1,136 | 463 | 971 | 3,349 | 1,462 |
| IMF | – | 649 | 597 | 744 | 502 | 1,008 | 2,487 |
| Sab-Saharan | 1,591 | 2,886 | 2,562 | 3,112 | 2,336 | 6,054 | 5,782 |
| To basic nutrition (health) | | | | | | | |
| All donors | 175 | 213 | 180 | 178 | 326 | 238 | 522 |
| | 0.4% | 0.4% | 0.1% | 0.1% | 0.3% | 0.2% | 0.3% |
| Sub-Saharan | 28 | 37 | 50 | 102 | 137 | 108 | 251 |
| Other official flows to agriculture (not ODA, mostly via development banks) | | | | | | | |
| All donors | 956 | 2002 | 1,734 | 621 | 1,401 | 1,321 | 2,504 |
| African DB | – | 45 | 75 | 34 | 97 | 14 | 126 |
| Asian DB | 280 | 175 | 239 | 46 | 261 | 137 | 200 |
| InterAmer DB | – | 570 | 46 | 42 | 32 | 359 | 850 |
| IBRD | 544 | 460 | 1,320 | 459 | 995 | 749 | 835 |
| IFAD | 49 | 52 | 22 | 12 | 9 | 18 | 59 |

Source: Data in this table are from OECD (2011).

Table 5 shows the prominence given to Sub-Saharan Africa and South Asia for each of these categories of ODA. It also shows the large fraction of assistance devoted to food aid relative to agriculture. Moreover, while the trend in aid to agriculture had already started to turn in 2007, shares of foreign assistance to agriculture remain well below those in the 1980s, when agriculture received about one-quarter of ODA.

General budget support also increased substantially in 2008 and 2009, although that clearly was driven by economic and oil crises in addition to food crisis, and it is impossible to sort between those motivations from these data. General budget support nearly doubled from 2005-06 to 2009, increasing by over US\$4 billion. Over one-third of this support came from the IMF. This increase is roughly two-thirds the combined increases in aid to food security and agriculture.

Development banks had made substantial promises to increase funding to agriculture as well in 2008 (see Table 1). Their US\$7 billion dollar promises at the 2008 Rome Food summit resulted in additional annual flows to agriculture of about US\$1 billion from the World Bank (IDA and IBRD), about US\$0.2 billion from IFAD, and about US\$1.3 billion from the other development banks. While these are also much smaller than the promises, they represent substantial increases in funding to agriculture by these entities relative to 2005-06.

Table 6
Increases in foreign assistance relative to 2005–06 averages

| | 2005-06 Average | Increases 2008 | 2009 |
|---|-----------------|----------------|--------|
| ODA | 126,854 | 26,547 | 31,978 |
| Budget support | 4,447 | 4,329 | 4,235 |
| Agriculture | 4,080 | 2,584 | 4,303 |
| Sub-Sahara | 1,421 | 818 | 1,745 |
| South Asia | 971 | 280 | 499 |
| Middle East | 144 | 113 | 184 |
| Food Aid | 3,599 | 1,880 | 1,689 |
| WFP expenditures | 2,779 | 758 | 1,207 |
| Nutrition | 179 | 59 | 344 |
| Development banks to agriculture ¹ | | | |
| World Bank (IBRD & IDA) | 1,675 | 514 | 920 |
| African Development Bank | 55 | -40 | 71 |
| Asian Development Bank | 143 | -6 | 57 |
| Inter AmerDevelopment Bank | 44 | 316 | 806 |
| IFAD | 163 | 93 | 210 |
| Other official flows (total) | 1,177 | 144 | 1,327 |
| CGIAR revenue | 454 | 99 | 175 |
| Agriculture + food aid | 7,679 | 4,464 | 5,992 |
| US | 2,801 | 1,471 | 1,150 |
| EC | 438 | 613 | 1,832 |
| EU member states | 1,289 | 882 | 1,113 |

Note: ¹ includes 'other official flows' in addition to ODA for development banks.

Source: OECD (2011); WFP (2010) and CGIAR (2011).

One of the goals of the international dialogue in 2008 and 2009 was better global governance and coordination of assistance to agriculture. Fragmented and duplicative projects were believed to have diminished aid effectiveness to agriculture. At the international meetings in 2008 and 2009 efforts focused on the abstract ‘Global Partnership’ led by the UNHLTF (2008). A financial coordination mechanism was also proposed (Ad Hoc Advisory Group 2009). The Global Agriculture and Food Security Programme (GAFSP) was eventually created under the supervision of the World Bank. Bilateral efforts appear to dominate, however, as donors were reluctant to yield control of their agricultural initiatives. Political factors and spillovers to donor country interests still matter to the extent and nature of these commitments. Contributions received by the GAFSP to date, amounting to only US\$420 million (GAFSP 2011), or less than half of pledges, are smaller than initiatives launched by the US, the European Commission (EC), or EU member states. Additional support to agriculture of over US\$1 billion was provided by each of these groups, and the EC increment equalled US\$1.8 billion.

The overall story is that aid to agriculture and to food security increased somewhat in response to the 2007-08 food crisis, even if those contributions were much smaller than the exaggerated promises made at international meetings. More problematic may be the fact that much of this aid was for short-term measures such as food aid and fertilizer subsidies (Mousseau 2010). The Consultative Group on Agricultural Research (CGIAR), the ‘global partnership that unites organizations engaged in research for sustainable development’ (CGIAR 2011), increased its average annual funding of US\$454 million in 2005-06 by only US\$99 million in 2008 and US\$175 million in 2009. We will see below that agricultural research has been the most effective agricultural development strategy based on evaluations and academic research (Pardey, Alston and Piggot 2006; Herdt 2010).

3 Performance subsequent to the crisis

Before considering the effectiveness of aid to agriculture and food aid, it is useful to examine how well developing countries performed in achieving food security and increasing agricultural production during and following the 2007-08 crisis. Importing behaviour, grain consumption and production are explored. These data show that the short-term strategies of many countries maintained consumption levels in most regions in spite of the high import costs. High costs were also incurred to maintain fertilizer import levels. Literature on price transmission suggests domestic price increases were muted relative to international commodity prices, as well (Daviron et al. 2011). But these policies were costly to developing country governments.

3.1 Import bills

Presumably higher international grain prices would lead to lower imported quantities, but if demand is inelastic import value would increase. To assess the effect of high world prices on imports, trend grain imports were established from FAO calendar year data through 2006 (FAO 2011b). Table 7 reports those linear trend forecasts of grain imports, in quantity and value in 2006, as well as imports above or below that trend in 2007 and 2008 when world

prices were rising. Grain import value for the world was US\$24.7 billion higher in 2007 and US\$56 billion higher in 2008 than the linear trend forecast. Trend grain imports in 2006 were only US\$57 billion, so the high prices made import costs double during the food crisis. Net food importing developing countries and low income food deficit countries (as defined by the FAO) increased imports US\$11 and US\$10 billion, respectively. Sub Saharan Africa increased imports less than other regions, at US\$1.45 billion or 25 per cent of 2006 trend imports. South Asia followed other regions, however, increasing imports US\$4.2 billion. The hardest hit was North Africa and the Middle East, where imports increased by US\$16.9 billion over an US\$11 billion 2006 trend forecast.

Table 7
Grain import value and quantity: Trends and deviations after 2006

| | Grain import value | Addition grain imports: value (above linear trend) | | | |
|--|---------------------|---|-------|------|------|
| | 2006 Trend forecast | 2007 | 2008 | | |
| | (in \$ billions) | (in \$ billions) | | | |
| World | 57.18 | 24.74 | 56.37 | | |
| China | 2.51 | -0.76 | -0.45 | | |
| India | 0.61 | 0.22 | -0.88 | | |
| Brazil | 1.21 | 0.80 | 1.48 | | |
| Sub-Saharan Africa | 6.06 | 1.74 | 1.45 | | |
| North Africa & Middle East | 11.37 | 7.23 | 16.86 | | |
| South Asia | 2.54 | 0.86 | 4.17 | | |
| East & Southeast Asia ² | 11.59 | 3.92 | 10.16 | | |
| Latin America ³ | 8.88 | 3.29 | 8.61 | | |
| Net food importing developing ¹ | 10.90 | 4.29 | 11.07 | | |
| Low-income food deficit | 17.63 | 5.47 | 9.93 | | |
| Least developed | 4.75 | 0.64 | 2.95 | | |
| | Net import quantity | Additional grain imports: quantity (above linear trend) | | | |
| | 2006 trend forecast | 2007 | 2008 | 2009 | 2010 |
| | (in mmt) | (in mmt) | | | |
| World | 249.2 | 16.4 | 16.9 | 14.5 | 2.2 |
| China | -3.8 | -0.6 | 2.5 | 4.6 | 2.7 |
| India | -4.7 | -3.6 | -1.5 | -1.0 | -2.6 |
| Brazil | 1.3 | -1.9 | 0.3 | -4.4 | -2.5 |
| Developing countries ² | 136.2 | -0.8 | 20.8 | 18.7 | 9.0 |
| Sub-Saharan Africa | 21.9 | -5.5 | -2.1 | -1.9 | -5.5 |
| North Africa & Middle East | 57.1 | 8.8 | 26.6 | 20.6 | 14.6 |
| South Asia | -2.4 | -2.5 | 2.8 | -0.7 | -0.3 |
| East & Southeast Asia ² | 25.6 | -1.9 | -2.5 | 2.2 | 3.5 |
| Latin America ³ | 34.1 | 0.3 | -4.0 | -1.5 | -3.3 |

Notes: ¹Developing-country groupings are according to FAOSTAT definitions.

²Excludes China; ³Excludes Argentina and Brazil.

Source: FAO (2011b) for calendar year import value data; FAS-USDA (2011) for marketing year quantity data.

The ability to meet these very large increases in food import costs varied substantially even within these regions. In the diverse North Africa and the Middle East region, for example, some oil-exporting countries could easily afford imports—and Saudi Arabia for a time even became a large food aid donor. But several countries in North Africa and even some in the Middle East were more fragile, and were unable to import to fully maintain consumption. These latter cases dominate the regional aggregates.

World import quantities of grain were up slightly—16 million metric tons (mmt) on trend imports of 249 mmt, in spite of the higher prices. Thus, in most regions inelastic demand coupled with market interventions caused import levels to be nearly maintained. In most developing country regions import quantities fell less than 10 per cent in 2008, when prices peaked. The notable exception again was North Africa and the Middle East, where there were additional 26.6 mmt imports of grain on a trend import level of 57.1 mmt. As we see below, production in that region was failing to keep up with rapidly rising consumption, so those countries were forced to import in spite of high prices.

The increase in worldwide fertilizer import costs (relative to trend) in 2008 was nearly as large as the increase in grain import costs. Table 8 shows trend fertilizer imports (value) in 2006 and imports above a linear trend for 2007 and 2008. Fertilizer imports in 2008 were \$44.8 billion above trend, relative to trend imports of US\$34.3 billion in 2006. This more than doubling of fertilizer costs is large relative to aid supporting fertilizer subsidies, and is almost as large as the increase in food import bills. The regional pattern of these costs was

Table 8
Fertilizer import value: trends and deviations after 2006

| | Fertilizer import value | Additional fertilizer imports: value (above linear trend) | |
|--|-------------------------|--|-------|
| | 2006 Trend forecast | 2007 | 2008 |
| | in \$billions | in \$billions | |
| World | 34.31 | 19.90 | 44.78 |
| China | 2.89 | 0.01 | 0.47 |
| India | 2.03 | 2.10 | 9.57 |
| Brazil | 2.65 | 13.39 | 6.12 |
| Sub-Saharan Africa | 1.69 | 0.14 | 1.21 |
| North Africa & Middle East | 1.46 | 0.02 | 0.71 |
| South Asia | 3.21 | 1.75 | 9.45 |
| East & Southeast Asia ² | 4.27 | 0.69 | 6.36 |
| Latin America ³ | 3.79 | 0.89 | 3.87 |
| Net food importing developing ¹ | 2.80 | -0.20 | 1.40 |
| Low-income food deficit | 8.65 | 2.04 | 13.05 |
| Least developed | 1.04 | -0.09 | 0.02 |

Notes: ¹Developing-country groupings are according to FAOSTAT definitions.

²Excludes China.

³Excludes Argentina and Brazil.

Source: FAO (2011b) for calendar year import value data; FAS–USDA (2011) for marketing year quantity data.

somewhat different from grains, however. China was relatively self-sufficient in grain and an exporter of fertilizer, whereas India was also a small net grain exporter, but needed to import an additional US\$9.6 billion of fertilizer in 2008. Brazil, also an exporter, increased fertilizer imports by US\$13.4 billion in 2007 and US\$6.1 billion in 2008. Low income food deficit countries increased imports by US\$13 billion, but other categories of low income developing countries, who imported (and used) much less fertilizer in the past, increased fertilizer import costs by a much smaller amount. Sub-Saharan Africa increased fertilizer imports by 75 per cent, or US\$1.2 billion. Fertilizer imports were on trend in 2007 and increased 50 per cent in 2008 in North Africa and the Middle East, by US\$0.7 billion. South Asia uses much more fertilizer, and quadrupled fertilizer import costs from US\$3.5 billion in 2006.

Increases in import costs of developing countries for both grain and fertilizer were quite large relative to the sums of money promised and delivered as foreign assistance in response to the food crisis. There was not a perfect match between where these costs were increasing and where foreign assistance went, since foreign assistance was targeted to the higher poverty regions of Sub-Saharan Africa and South Asia. Grain import costs increased most in North Africa and the Middle East, however. Fertilizer use and imports are higher in rice producing Asia and in exporting countries. One of the goals of agricultural development may be to increase fertilizer use where it is not now heavily used, and high fertilizer costs are an impediment to that.

3.2 Agricultural supply and use

One of the myths about the 2007–08 food crisis was that the rapid supply response to high international agricultural prices was confined to developed exporting countries—that allowed the high world prices inside their borders. Table 9 presents grain production growth rates from 2000 to 2006, projected trend production in 2006, and the extent to which production exceeded that trend from 2007 to 2010. For the world, grain production had been growing at 1.7 per cent per year, and was growing somewhat more slowly in the large exporting countries, at 1.2 per cent per year. Additional production from the larger exporters, above that linear trend, was about 3.7 per cent in 2007 and over 10 per cent in 2008 and 2009. Increases above trend in the large exporting countries plus China do appear to equal or exceed the world total, leaving developing countries with production growth barely above trend. But there were huge differences across (and within) developing country regions. Sub-Saharan Africa was an excellent performer, even after having exhibited trend growth of 3.6 per cent per year before the crisis. It realized growth in grain production above that rapid trend of 6.2 per cent in 2008, 4.1 per cent in 2009 and 10.1 per cent in 2010. Production in South Asia, the other high poverty region, saw much slower growth prior to 2006, but improved over than trend after the crisis by about 8 per cent in 2007, 2008 and 2010. Latin America (excluding Brazil and Argentina, who are included with the large exporters) had been growing at 2.1 per cent per year, and increased production above trend about 6.8 per cent in 2008, but resumed the longer-term trend afterwards. The one region below trend, entirely accounting for the seemingly unimpressive performance of the developing-country aggregate, was North Africa and the Middle East. Grain production there had been growing at 4.4 per cent per year, but fell 16 per cent below trend in 2007 and

2009, 27 per cent in 2010 and 33 per cent in 2008. As observed earlier, these production shortfalls necessitated substantially increased grain imports at a time when world prices were high.

Historically, food production has grown faster than consumption in most regions, and it has been responsive to price incentives, the exception being sub-Saharan Africa (SSA). The World Bank (2008) and Binswanger-Mkhize and McCalla (2010) attribute the excellent recent agricultural performance in SSA, starting well before the food crisis, to better trade and macroeconomic policies that have reduced disincentives to agriculture. But they argue that greater public and private investments in agriculture are needed to sustain this performance. The extent to which foreign assistance helped to bring about this outcome remains an unanswered question.

Table 9
Total grain production and domestic consumption: Trends and deviations after 2006

| | Growth rate | Grain production | Additional grain production (above linear trend) | | | |
|------------------------------------|---------------|-------------------------------|--|---------|---------|---------|
| | 2000-06 | 2006 Trend forecast | 2007 | 2008 | 2009 | 2010 |
| | (in % / year) | (in mmt) | (in mmt) | | | |
| World | 1.7 | 2,030 | 61 | 143 | 100 | 16 |
| Large exporters ¹ | 1.2 | 964 | 36 | 113 | 90 | -3 |
| China | 2.1 | 377 | 13 | 26 | 14 | 19 |
| Developing countries ² | 2.2 | 662 | 15 | 4 | -2 | 2 |
| Sub-Saharan Africa | 3.6 | 99 | 2.2 | 6.2 | 4.1 | 10.2 |
| North Africa & Middle East | 4.4 | 102 | -16.0 | -33.5 | -16.5 | -27.3 |
| South Asia | 1.0 | 265 | 21.0 | 21.5 | 11.1 | 19.4 |
| East & Southeast Asia ² | 1.9 | 138 | 5.6 | 6.2 | 0.2 | -0.02 |
| Latin America ³ | 2.1 | 58 | 2.6 | 4.0 | -0.5 | 0.02 |
| | Growth rate | Consumption trend forecast | Additional domestic consumption(above linear trend) | | | |
| | 2000-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 |
| | (in % / year) | (in mmt) | (in mmt) | | | |
| World | 1.5 | 2,046 | 20 | 41 | 47 | 64 |
| Large exporters ¹ | 1.6 | 814 | 6 | 20 | 20 | 11 |
| China | 0.2 | 379 | 12 | 20 | 28 | 43 |
| Developing countries ² | 2.2 | 800 | 5 | 3 | 2 | 13 |
| Sub-Saharan Africa | 3.8 | 121 | -4.3 | 1.9 | 0.3 | 4.8 |
| North Africa & Middle East | 2.6 | 157 | -3.7 | -4.1 | -1.5 | -6.1 |
| South Asia | 1.6 | 267 | 10.6 | 4.1 | -0.7 | 11.6 |
| East & Southeast Asia ² | 1.4 | 163 | 1.6 | 0.8 | 4.8 | 7.08 |
| Latin America ³ | 2.5 | 93 | 0.9 | 0.4 | -1.4 | -4.57 |

Notes: ¹US, EU, Canada, Australia, Argentina, Brazil.

²Excludes China.

³Excludes Argentina and Brazil.

Sources: Author's calculations using data from FAS, USDA PS&D online database (2011).

Strong supply response, growing production even before the crisis, and inelastic import demand meant that grain consumption in developing countries had been growing at 2.2 per cent per year (faster than population growth) from 2000 to 2006, and consumption was above trend slightly in every year from 2007 to 2010. Table 9 also shows worldwide and regional grain consumption behaviour around the food crisis. In SSA, consumption had been growing at 3.8 per cent per year to 2006, and while grain consumption was stagnant in 2007, it was well above this rapid trend in 2008 through 2010. In South Asia consumption had been growing more slowly, at 1.6 per cent per year, and was well above this trend afterwards, except in 2009 when it was slightly below trend. In North Africa and the Middle East consumption had been growing at 2.6 per cent per year (slower than production growth but faster than population) but fell below trend every year afterwards, between 1 per cent and 4 per cent. Hence, imports could not fully make up for production shortfalls during the food crisis, but only in that region.

These worldwide data on agricultural production, consumption and trade paint a somewhat different picture than was portrayed during the 2007-08 food crisis in the popular press and at international meetings. On the one hand, policy responses, intended to mitigate the effects of high international food prices, maintained consumption to a large extent. On the other hand, those policy responses did not prevent a supply response to higher world prices in most developing regions. The region hardest hit was not the high poverty regions of SSA and South Asia, where both consumption and production of grain improved. Rather, problems were most severe in some countries in the North Africa and the Middle East region, where rapid production trends stalled and imports could not keep up at high prices. These results are consistent with Headey's (2011) assessment that rising incomes and sustained production and imports helped most countries maintain food security during the crisis. For this outcome to occur in the future, production growth must keep up with consumption growth. It is possible that the foreign assistance efforts targeting the high poverty regions helped (marginally) bring about this outcome.

4 Aid effectiveness and food: a longer-term perspective

Interest in aid effectiveness generally has spilled over into foreign assistance to food security and agricultural development. Efforts to more formally assess projects in agriculture and food aid have led several authors to conclude that evidence is now just too limited, and evaluations inadequate, to determine rates of return (World Bank 2007; Herdt 2010; Winters, Maffioli and Salazar 2011; Awokuse 2011). Nevertheless, for both agricultural development and food aid, there has been continuing debate on the effectiveness of foreign assistance that has led to significant reforms, and often dramatic changes in direction, of aid efforts (Herdt 2010; Barrett and Maxwell 2005). Conditional cash transfers are somewhat newer, and so there is not as much literature examining effectiveness empirically (Fiszbein and Schady 2009). Moreover, cash transfer initiatives were often substantially funded by national governments, with bilateral donors sometimes reluctant to engage in these activities.

4.1 Agricultural development

In its 2008 *World Development Report* the World Bank (2007) argued for renewed investment in agricultural development and for a reversal of the trend in declining foreign assistance to agriculture. That report emphasizes the role of agriculture in development, arguing that poor countries may require agricultural growth to sustain overall economic growth, and somewhat more developed countries would realize more equitable growth if agriculture were more heavily emphasized. They argue that poverty is predominantly rural, so agricultural development is critical to poverty reduction, as well. They advocated a broad range of interventions to foster more rapid agricultural growth, including:

- Reform of trade, price and subsidy policies;
- Improving marketing institutions that generate higher value added and provide inputs;
- Improving legal institutions, for land rights, finance and insurance;
- Enhancing producer organizations as a key institutional improvement;
- Providing infrastructure and other public goods, such as roads and market information; and
- Advancing science and technology, as well as extension, to disseminate that science.

Binswanger-Mkhize and McCalla (2010) provide a very similar, broad list of changes needed to spur agricultural development. The World Bank (2007) also acknowledge the concern recently expressed with the ‘green revolution’ model of agricultural development – based on new varieties combined with greater input use – that addressed environmental and sustainability issues. Critics of the green revolution model, and of large scale ongoing efforts like the Green Revolution for Africa (AGRA 2009), raise environmental sustainability issues and suggest less input intensive solutions (de Schutter 2011).

Aid effectiveness gets only brief attention in the 2008 *World Development Report*. The objective is to lay out an overall strategy for agricultural development and not focus on the role of foreign assistance *per se*. Where they do address aid effectiveness, concerns are almost entirely addressing governance issues at both the national and international levels. They note the extent to which some governments have neglected agricultural investment, so that donor contributions may make up the majority of public expenditure on agriculture, and they cite several African countries where it exceeds 80 per cent. They also note that donor interventions can be ‘fragmented, overlapping, discontinuous and sometimes contradictory...’ (World Bank 2007: 257). They note that foreign financing can be necessary, but government leadership, country ownership and sector wide approaches are critical.

Herdt (2010) looks at the longer history of foreign aid to agriculture, explaining how strategy and the elements included as agricultural interventions have evolved since the green revolution began in the 1970s. While he notes that only the World Bank has published systematic formal evaluations, and those would not be adequate to compute rates of return in most cases, efforts at evaluation have informed the significant reforms over time

in approaches to agricultural development intervention. Both changes in philosophy on aid to liberalizing markets and donor scepticism on aid effectiveness in agriculture, based on qualitative assessments, fuelled this decline. Controversy persists on whether the decline in agricultural assistance was a mistake by donors, or if agricultural projects (at least as we have known them in the past) are likely to fail.

Table 10 is taken from Herdt's (2010) report to provide some assessment of various agricultural initiatives. It shows both some of the key approaches and indicates his critique of each. One theme has been subsidized credit, an approach that was widespread early on. But credit programmes proved impossible to sustain and were largely abandoned by the 1980s. Microcredit has not been as successful in agriculture as elsewhere, since larger amounts of credit were required by farmers and durations of loans were longer than is typical for microcredit activities. But market imperfections in credit markets remain a concern in the agricultural development literature, and are a component of some recent interventions. Integrated rural development, to address the broad range of interventions noted above, was also an earlier and subsequently abandoned approach. These programmes could include health and education activities as well. Herdt (2010) argues they were difficult to manage across multiple agencies with divergent interests. Irrigation and drainage activities have declined but continue as an emphasis by the World Bank and other development banks. Infrastructure more generally has received renewed attention. New agricultural universities were also supported, but they failed to gain responsibility for research and extension in a manner similar to US land grant universities. Institutional development is a consistent theme of more current approaches to agricultural development.

One area of foreign assistance to agriculture has been evaluated to an extent that permits estimation of rates of return—agricultural research. It is now recognized that successful research must also be accompanied by extension efforts to disseminate that research. Other factors, such as institutional improvements, are also likely to be necessary for agricultural research to realize a broad impact, and evaluations may attribute benefits to research, which would not be realized without these accompanying changes. Herdt (2010) observes that hundreds of studies following the approach initially proposed by Griliches (1957) have found very high rates of return to agricultural research, on the order of 40-50 per cent per year. Pardey, Alston and Piggot (2006) argue that studies show these high rates of return are found in developing countries, not just in the developed agricultural exporters. Evidently, enormous spillovers to a large number of farmers can be realized from new discoveries, if that information can be transmitted to widely dispersed farmers. Much of that research results in new varieties that are responsive to greater input use, so effective credit, input and output markets are also required for the high returns to be realized.

Renkow and Byerlee (2010) look explicitly at the Consultative Group on International Agricultural Research (CGIAR)—the group that governs international research centres. They find evidence of strong positive impacts similar to those found for research overall, but that research is skewed toward activities that have more limited geographic spillovers.

Agricultural research and extension have received only 3-5 per cent of support to agriculture, however. Data in Table 6 suggest CGIAR funding as a share of foreign

Table 10
Patterns of support and effectiveness of agricultural development assistance

| Sub-sector | Pattern of support | Success rate | Experience | Cost-effective? Sustainable? |
|------------------------------|---|--|---|---------------------------------------|
| Subsidized credit | Widespread in 1960s & 1970s but largely abandoned by USAID and World Bank in 1980s | Impossible to maintain programmes > 5 years in most cases | Credit reaches mainly larger farmers; repayment poor; rural credit suppliers collapse | NOT cost-effective NOT sustainable |
| Microcredit | Embraced by donors in 1990s, created Consultative Group to Assist the Poor | Evaluation began in 2002; few case studies of success in agriculture | Credit reaches poor farmers; repayment sustained; microfinance suppliers need donor subsidies | Cost-Effective NOT-sustainable |
| Integrated rural development | USAID >100 projects in 1970s, 'no longer encouraged' in 1985 World Bank projects: 1971-73: 5/yr 1974-76: 17/yr 1977-79: 24/yr 1980-82: 21/yr 1983-85: 18/yr | < 50% successful in a 1992 World Bank review | 'That form of area development project that came to be known as 'integrated rural development' (that is, a multi-component project involving two or more agencies) performed so poorly as to raise questions about the utility of that approach in many situations' | NOT cost-effective NOT sustainable |
| Irrigation & drainage | USAID agriculture: 15% 1970s-80s 5% 1988-92 <2% thereafter World Bank: \$1,120/yr 1970s \$1,273/yr 1980s \$1,032 1990s | World Bank: 1995: 67% of 208 projects successful 2002: 336 projects success rates was "below Bank average' | World Bank: Continued large lending despite pessimistic tone in 1993 and 2002 reports;reaffirmation of importance of 'hydraulic infrastructure' in 2004 | |
| Research & extension | 3-5% of agricultural support | Hundreds of studies: median rates of return 40% to 50% | Wide recognition of the need to get technology to farmers, no agreement on optimal mode of extension | Cost-effective Public goods |
| Higher education | USAID: 1960-70: 74 project 1974: 18 projects 1978: 10 projects World Bank: 1964-90: 68 universities 1992: reluctant 2002: encouraging | No estimates of economic rates of return or success rates | New universities successfully established teaching programmes, many through Ph.D. level; unsuccessful in gaining responsibility and funding for research and extension | Cost-effective |

Source: Adapted by author from Herdt(2010).

assistance to agriculture actually fell from 2005 to 2009. In many developing countries weak links that prevent taking advantage of research are poorly funded and ineffective national agricultural research and extension institutions. Those national institutions are necessary to adapt new technologies to local environments. But international agricultural research centres have even resorted to providing their own extension services in an effort to get their breakthroughs adopted.

Crola (2009) examines agricultural development foreign assistance in three West African countries after the 2007-08 crisis: in Niger, Ghana and Burkina Faso. Like Mousseau (2010), he argues that interventions were focused on short-term activities: seeds and fertilizer, but not research. Aid that ultimately arrived was not as large as expected, and there was little evidence of coordination by donors. Moreover, the countries he looks at lacked agricultural development plans that could be used as the basis for donor contributions to a country- led sectoral approach. As was the case for the World Bank (2007), governance issues limited aid effectiveness.

A dilemma evident in this literature is that there are high payoffs to agricultural research, but failures of many past agricultural development projects. Successful agricultural development needs not only to identify new varieties, but also to enhance the institutions that enable adoption of those varieties. Success is more likely to be found where supportive governments and better institutions exist. Improving institutions is not easy, however. The short-run focus of agricultural development assistance following the 2007-08 food crisis put heavy emphasis on new varieties, sometimes not adapted to local conditions, and to meeting high fertilizer costs without reforming market conditions. Faster agricultural development in the longer run requires that foreign assistance be aimed more broadly, and that governance and institutional constraints be overcome. A second dilemma is that sometimes the neediest countries are those with the weakest institutions.

4.2 Food aid

As was the case for agricultural development, there is a vast literature examining food aid, but that literature and related evaluations do not permit estimation of rates of return to this form of foreign assistance (see Barrett 2002 for a review of food aid literature). This formal evaluation is further complicated by the fact that goals of food aid are often to achieve humanitarian ends, such as reduced malnutrition or starvation. While better nutrition may eventually foster economic development, motivations for food aid are often focused on the short term. It is doubtful, for example, that the substantial food aid delivered to the horn of Africa in 2011 to feed millions of refugees will show up as measureable increases in any country's per capita GDP in the near future. Increasingly over the last decade, food aid has been used for disaster relief.

In their recent assessment of food aid, Barrett and Maxwell (2005) offer a perspective that likely applies to other forms of foreign assistance beyond food security. They note that sometimes recipients are identified for political reasons rather than to achieve economic or humanitarian objectives. Moreover, provisions for food aid delivery often result in capture by commercial interests in the donor country, including farmers and shippers, although Barrett and Maxwell argue that perceived benefits may well exceed actual benefits. An aggregate evaluation will be tainted by these inefficiencies, and the standard measure of that evaluation may not capture well the benefits food aid can bring.

Table 11
Food aid donations, 1990 to 2009
(in million metric tons)

| | Total | By type: | | | Donated by: | |
|------|-------|-----------|-----------|---------|-------------|------|
| | | Emergency | Programme | Project | US | EC |
| 1988 | 14.05 | 2.15 | 8.20 | 3.70 | 8.17 | 1.70 |
| 1989 | 11.21 | 1.69 | 6.37 | 3.15 | 6.33 | 1.88 |
| 1990 | 12.79 | 2.35 | 7.73 | 2.72 | 7.60 | 2.23 |
| 1991 | 12.33 | 3.39 | 6.48 | 2.46 | 7.15 | 1.82 |
| 1992 | 14.89 | 4.91 | 7.55 | 2.43 | 7.40 | 3.68 |
| 1993 | 16.91 | 4.09 | 10.44 | 2.38 | 10.76 | 2.97 |
| 1994 | 12.34 | 4.30 | 5.42 | 2.63 | 6.92 | 2.17 |
| 1995 | 9.70 | 3.51 | 3.99 | 2.20 | 4.00 | 2.71 |
| 1996 | 6.89 | 2.53 | 2.75 | 1.61 | 3.03 | 1.40 |
| 1997 | 6.89 | 3.05 | 1.69 | 2.16 | 2.96 | 1.09 |
| 1998 | 8.08 | 2.84 | 2.81 | 2.42 | 3.84 | 0.89 |
| 1999 | 14.62 | 4.58 | 7.77 | 2.27 | 9.30 | 2.47 |
| 2000 | 10.93 | 5.06 | 3.28 | 2.59 | 6.67 | 1.02 |
| 2001 | 10.51 | 5.17 | 2.32 | 3.03 | 6.16 | 0.98 |
| 2002 | 9.06 | 4.12 | 2.36 | 2.59 | 5.72 | 0.57 |
| 2003 | 9.81 | 6.08 | 1.53 | 2.20 | 5.28 | 1.17 |
| 2004 | 6.99 | 3.92 | 1.30 | 1.76 | 3.80 | 0.57 |
| 2005 | 7.93 | 4.99 | 1.12 | 1.82 | 3.82 | 0.65 |
| 2006 | 6.67 | 4.04 | 1.00 | 1.64 | 3.45 | 0.80 |
| 2007 | 5.77 | 3.49 | 0.91 | 1.37 | 2.52 | 0.72 |
| 2008 | 6.23 | 4.72 | 0.32 | 1.19 | 3.22 | 0.39 |
| 2009 | 5.48 | 4.13 | 0.23 | 1.12 | 2.81 | 0.30 |

Source: Data in this table are from WFP, INTERFAIS database (2011).

But much of food aid has accomplished good results, at least based on a humanitarian standard. They argue that food aid should be reformed to eliminate the inefficiencies that bad policies and politics bring, not eliminated.

There was a time when a principal reason for giving foreign assistance as food aid was that it was convenient and politically easier to justify in donor countries. Food aid complements domestic support to agriculture in the US, for example, but that means it has fallen (particularly in quantity) when world food prices are high, so need is greatest. The farm lobby still is a strong force supporting US food aid. Public relations efforts by the WFP in 2007-08 brought additional contributions so that food aid did not diminish during the recent crisis. Donations in 2011 are lagging need at a time of high food costs and need, as in the more distant past, however.

Food aid is now more often targeted to activities where delivery of aid as food does not bring as great inefficiency. In the past, food aid was often monetized—sold by the government or an NGO in the recipient country to generate cash that financed broaddevelopment activities. Food aid is still categorized as either programme aid, project aid, or emergency relief. Programme aid was largely monetized by recipient governments to obtain cash. Project aid might or might not be tied to food security initiatives, like food for work. Emergency food aid largely targets droughts and other natural disasters, or emergencies related to civil conflict. Table 11 shows the overall allocation of food aid in million metric tons (mostly of grain) across these three

categories from 1988 to 2009. Overall food aid has fallen 60 per cent over this period. Programme food aid's share has fallen from 58 per cent in 1988 to only 4 per cent in 2009. Project aid's share also fell, from 26 per cent in 1988 to 20 per cent in 2009. Emergency aid made up the difference, increasing from 15 per cent in 1988 to 75 per cent in 2009, the level realized during the food crisis. Thus, in the recent crisis little food aid was monetized, and most of the aid in this form went to reducing hunger.

Literature on food aid has raised a number of issues that lead to the inefficiencies of concern in Barrett and Maxwell (2005). Foremost among these remains the disincentive effect proposed by Schultz in 1960. Shultz argues that food aid deliveries at a time of shortage would lower local food prices and so discourage local farmers from increasing production. Conflicts exist between the short-run goals achieved through food aid and the long-run goals of agricultural development assistance if food aid brings this disincentive to agricultural production. Barrett (2002) argues that it has been hard to show that this often happens, but the concern persists and has been a force behind reforms of food aid programmes. In their efforts during the recent food crisis, the WFP expanded their local purchase programme (P4P) to both prevent disincentive effects, in fact using the purchases to help promote agricultural production in nearby regions, and to reduce the high transactions costs associated with food aid deliveries from donor countries (WFP 2009b). Reducing these high transactions costs, and reduced capture of benefits by intermediaries, is probably a bigger efficiency gain than is the gain due to avoiding a disincentive effect.

Fisher (1963) argues against the disincentive effect of food aid if that aid results in consumption that is additional to consumption that would occur in the absence of that aid. His point is that monetized food aid—sold on the local market—may well lower prices and discourage farmers, but food aid delivered to the poor, who would otherwise be unable to buy that food, increases demand by the amount of the aid. Barrett and Maxwell (2005) emphasize a closely related concept – that effectiveness of food aid depends mostly on how well it is targeted to the needy. Targeting matters on both an individual and a national level. Some uses of food aid are more effectively targeted than others, as are some destinations. Their conclusion is that well targeted food aid has done enormous good, but not all food aid is well targeted.

One of the ways food aid has been targeted has been to enhance employment via food for work programmes. Support for that approach persists, given the emphasis on employment and livelihoods in aid effectiveness discussions. But some have questioned whether food for work projects generate long-term employment and economic impacts, believing they serve best when focused on infrastructure.

Poverty reduction is another target of food aid. It is recognized in poverty research that asset and savings depletion in a crisis can make the poor more vulnerable to repeated shocks. The WFP has struggled with donors over whether food aid should be maintained for a long enough period to rebuild assets and wealth. With high food prices returning in 2011, vulnerability of the poor after the 2007-08 crisis remains an important concern.

4.3 Safety nets

In order to further reduce inefficiencies due to tying aid to food, conditional cash transfers have been proposed and recently used in some countries in place of (or complementary to) food aid to provide safety nets to the poor. The notion here is that

poor recipients may prefer other resources than food, and incur a cost to convert food to cash (Stewart 1986). Wodon and Zaman (2008) argue that cash transfers would be more effective than food aid in alleviating the poverty that was occurring in Africa at the time of the food crisis. They also argue that food aid based safety nets could experience leakages due to inefficiencies in procurement, storage and distribution of grain. Their evaluation, like others, is more based on theoretical reasoning than on empirical observation. As with food aid, however, effectiveness depends strongly on how well the aid is targeted. Also, the appropriate standard involves changes in poverty or income distribution, not growth.

Fiszbein and Schady (2009) recently reviewed World Bank involvement in the increasing number of conditional cash transfer safety nets in the developing world. They note the rapid recent increase in the use of this approach, resulting in some large programmes, particularly in Latin America. The Latin American programmes, and even those elsewhere, including Africa, are often funded by national governments with limited donor assistance. They also highlight the importance of targeting to achieve effectiveness, and argue that many of these initiatives have been quite successful in meeting short-term goals in raising consumption and improving health and education, including during the recent food crisis. Longer term developmental impacts were harder to document in that study.

Use of conditional cash transfers is a much more recent development in foreign assistance, but this mechanism was frequently used (by national governments) in the recent food crisis (Demeke, Pangrazio and Maetz 2008). The WFP also experimented with cash transfers in Burkina Faso in place of food aid.

Criticisms of conditional cash transfers during the food crisis are more anecdotal than systematic, and much of it has been based on experience in Ethiopia and Bangladesh. One concern was that this approach could not be easily scaled up unless a substantial programme existed prior to the crisis (Abbott 2009). Another important concern was that the safety net might effectively be withdrawn when it was most needed. In the Ethiopian case, cash transfers were not sufficiently increased in the face of high overall inflation to maintain purchasing power of the poor, and the expense to maintain the same level of safety net as existed before the crisis was considered prohibitive (Gilligan, Hoddinott and Taffesse 2008; Sabates-Wheeler and Devereux 2010). While in Ethiopia it is likely that inflation was not primarily due to international commodity price spikes, in many countries food inflation contributed to high overall inflation. If cash transfers were indexed to inflation, this effect of safety net erosion might be minimized, but if a poverty threshold is based on the cost of food, and if food costs rise, the cost of a cash-based safety net would rise, as well, and possibly faster than an overall inflation index. Mousseau (2010) argues that in several cases in 2007-08 cash transfers did not keep up with the cost of living for the poor due to higher food prices. He further argues that safety nets might have been better maintained if stocks of food had been held—as the value of those food stocks would have risen with food inflation. Sabates-Wheeler and Devereux (2010) cite several cases where this happened in Africa. This is essentially a political management argument rather than an economic efficiency argument. They are both suggesting that governments would be less likely to be concerned with the increasing opportunity cost of food stocks they hold than with the increasing financial cost of a cash based safety net. Mousseau (2010) also raises the concern that cash based safety nets might induce further food inflation if supplies are not increased to match demand. Basu (1996) had earlier based an argument on why food aid

might in some circumstances be preferable to cash transfers, due to income distributional consequences of these food inflation effects.

The prevalence of cash based safety nets during the food crisis, and the reforms in delivery of food aid, notably by the WFP, represent responses to past evaluations of effectiveness of foreign assistance directed at agriculture, food security and poverty. While those evaluations may be limited in assessing economic outcomes, understanding of how to achieve more rapid agricultural development and food security has advanced.

5 Issues in implementation

Assessments of aid effectiveness related to agricultural development and food security highlight several issues relevant to both evaluating and implementing foreign assistance. These issues help to explain differences in the responses taken by international donors versus national governments during the 2007-08 food crisis.

5.1 Multiple objectives—income, growth or poverty and hunger?

Much of the work on aid effectiveness presumes overall economic growth as the appropriate objective function (Tarp 2006), even if development economists clearly understand that development encompasses broader objectives. In the case of food aid, humanitarian objectives dominate. In the case of agricultural development, Mellor (1999) and the World Bank (2007) make clear that investing in agriculture may not be the strategy that maximizes the overall growth rate (or rates of return to investment), but growth is more equitable and poverty reduction is greater if agriculture is not neglected in a more balanced growth strategy. Employment and gender equity are now also key objectives of the development agenda. Agricultural development projects have underemphasized gender and employment issues, yet both can be important to project design (World Bank 2007). Social protection, as implemented via food aid and cash transfers, must also recognize livelihood and gender concerns that go beyond any growth impact. Assessment of aid effectiveness, and particularly evaluation of foreign assistance, needs to keep the underlying objective function assumed clearly in mind.

This issue is also important in understanding differences between implicit objectives of national governments versus international donors following the food crisis. International donors put a much heavier weight on extreme poverty than did national governments (Abbott 2009).

Both the emphasis on poverty and income distribution, and the lack of attention to growth consequences, led to emphasis on short-term measures—in both policy responses and foreign assistance. Food aid increases during the food crisis were nearly as large as subsequent increases in aid to agriculture, and support for cash safety nets probably means that overall safety net support exceeded support to agriculture. More importantly, the support provided to agriculture emphasized short-term measures—importing fertilizer and improved seeds. Less attention was devoted to agricultural research or institutional development. These must be supported if longer run acceleration of agricultural development is to be achieved.

5.2 Paris Declaration, global governance and national government ‘ownership’

Failure of past agricultural development assistance has been linked to governance failures at both national and international levels (World Bank 2007; Ad Hoc Advisory Group 2009). It is clear that agricultural initiatives succeed more frequently when committed national governments have a strategy international donors can support. Sector wide approaches have been encouraged, where a government has a plan and donors determine how they can contribute to that plan. But this remains the rare exception. Conflicts were apparent in international discussions on how to respond to the food crisis within the context of the Paris Declaration that affirms the primacy of national ownership (Global Donor Platform for Rural Development 2008). International donors wanted to focus on agricultural development of very small farmers, and on reduction of extreme poverty. National governments wanted to mitigate consequences of a much larger segment of their population, and put less emphasis on agriculture. While some entities, notably the GFRP (World Bank 2011) and the IMF (in providing budget support), were clearly guided by national priorities, foreign assistance often reflected past practice (Crola 2009; Mousseau 2010). Bilateral initiatives also dominate efforts to coordinate donor contributions.

The African Union has tried to combat lack of attention to agriculture and food security by national governments, by establishing its Comprehensive Africa Agriculture Development Programme (CAADP) in 2002. In the Maputo Declaration of 2003 Africa countries committed to allocate 10 percent of public expenditures to agriculture and that commitment was reaffirmed in the Accra Agenda for Action on Aid Effectiveness in 2008. Progress on this goal is very slow as only a few countries have reached this goal (CAADP 2011).

5.3 Climate change/environment

Climate change may require more adaptation in agriculture of developing countries than for other economic activities or locations (Stern 2007). While agricultural research needs to address adaptation to climate change, this is just one more argument for greater foreign assistance to agricultural research. Climate change is one more criterion that belongs behind the missing research agenda in many countries. Environmental impacts also need to be part of the criterion behind this agenda. But adaptation research and environmentally sensitive agriculture also need to be implemented, so institutional changes remain critical.

5.4 Smart subsidies?

Because fertilizer cost increases were prominent in the recent food crisis, and as a result of experience with fertilizer subsidies in Malawi, a controversy persists on agricultural policy recommendations following this crisis (Dorward et al. 2008). In the past such subsidies were considered highly inefficient. On the one hand, some researchers point to increased agricultural production in Malawi as evidence that this is a good option. On the other hand, those subsidies have been quite expensive, requiring a significant fraction of public spending. Foreign assistance has helped to finance sizeable fertilizer subsidies recently. Important questions are whether these subsidies can help correct

market failure in fertilizer or credit markets, and if there is then an exit strategy in place as these market failures are corrected and if fertilizer prices subsequently decline.

5.5 Public/private partnerships

One of the themes in discussions following the food crisis has been whether in the long-run agricultural production will grow fast enough to meet the world's food needs (FAO 2009). The UNHLTF (2008), in its initial assessment, estimated that US\$40 billion per year would be needed for sufficiently rapid agricultural development. A recent collaboration among several international agencies, as input to discussions on food security during the French G8–G20 presidency, suggests a doubling of that investment requirement (FAO, IFAD et al. 2011). Increments in foreign assistance to agriculture, at about US\$3 billion during the crisis, barely make a dent in that need. A newer aspect of assistance to agriculture has been public-private partnerships, focusing aid where it will leverage private investment. There are new initiatives, particularly by agribusiness multinationals, seeking to do this, but they remain quite small in scale (Hebebrand 2011). It was also recognized that agriculture (unlike health and education) is a largely private sector activity. While there are clearly public goods dimensions to agriculture, those must enable private sector activity.

5.6 Supply or demand solutions?

In keeping with concern that agricultural production may be inadequate to meet future world food needs, some foreign assistance initiatives—notably USAID's Feed the Future (USAID 2011)—emphasize increasing agricultural production, and often without a focus on simultaneously increasing rural income or employment. But a longer-term assessment of poverty and malnutrition recognizes the importance of effective demand. In the past malnutrition has persisted in the face of excess global food production capacity. Poverty reduction helps to bring greater food demand, which will in turn stimulate supply response. Focus on small farmers is in part to insure incomes increases for the rural poor.

5.7 Scepticism on aid effectiveness

Diminishing support for agricultural development and food aid over the longer term reflects some scepticism on the part of donor bureaucracies, and that scepticism was evident at recent international meetings. Those donors have witnessed the failed initiatives described by Herdt (2010) and the inefficiencies in food aid delivery highlighted by Barrett and Maxwell (2005). At international meetings they also witnessed heated debate among advocates of alternative approaches to agricultural development. In particular, those advocating more environmentally sustainable development were highly critical of the 'green revolution' model (de Schutter 2011). Each cite their own success stories. Recent focus on institutional and policy reforms have also realized mixed success and brought debate on what is the right policy regime, notably in the case of fertilizer subsidies. A more united front by those who advocate for agricultural development is likely needed for more significant increases in international support, and that may require a better understanding of the effectiveness of alternative approaches and policies. Systematic economic evaluations of alternatives, sensitive to

environmental consequences, might lead to a more effective and less divisive debate. The biggest remaining issue is how to scale up to a national level what can be achieved with intense input into a local environment.

6 Concluding comments

High international agricultural commodity prices in 2007-08 threatened food security worldwide, and prices increases in 2011 may again bring greater poverty and malnutrition to developing countries. Policy responses to this food crisis, by both national governments and international donors, took a largely short-term focus intended to survive the crisis. Even measures to foster more rapid agricultural development addressed high fertilizer costs and utilizing off-the shelf new varieties rather than investing in research or institutional reform. While this approach realized some success in mitigating the potentially disastrous income redistributive consequences of the food crisis, chronic food security concerns persist.

Safety nets employed during the crisis utilized the newer and potentially more efficient conditional cash transfers as often as food aid, even if food aid remained a significant component of the international response to this crisis. While cash in many instances is preferred to food, two problems evident in the crisis need to be overcome. Safety nets cannot be diminished precisely when they are needed, yet in some instances food aid was maintained at a high opportunity cost better than were cash safety nets during the ensuing inflation. Moreover, food aid may be required if otherwise food supplies would be unavailable in local markets, so cash transfers would only bring greater local inflation (Basu 1996).

Addressing longer-term and chronic food security issues requires that agricultural development be a more important component of many countries' development strategies. A substantial body of literature has shown that investments in agricultural research and extension can bring very high payoffs. But the potential spillovers are realized only when institutional arrangements permit. The dilemma of past agricultural development assistance has been that rates of return to this activity can be high, but many development projects have failed to reform local institutions adequately. There are success stories where national governments have been committed to agricultural development, however. Scaling up successes to the national level remains the most limiting concern, both for agricultural development and for safety nets.

Funding and interest in both food aid and agricultural development had been in long-run decline prior to the 2007-08 food crisis. Efforts by the World Bank (2007) and consequences of the food crisis have brought renewed interest that has resulted in only modest funding increases relative to the investment needs in agriculture of developing countries. The additional US\$4 billion in ODA to agriculture in 2009 (OECD 2011) should be compared to import bill increases for developing countries in 2008 of US\$56 billion for grains and US\$45 billion for fertilizers. It should also be compared to the US\$20 billion in aid to agriculture promised at L'Aquila in 2008 and the US\$40-80 billion per year to accelerate agricultural production that various multi-lateral agencies suggest is necessary to feed the developing world in the future (UNHCTF 2008; FAO, IFAD et al. 2011).

Poorly designed projects, mistakes in implementation, and focus on political objectives have diminished efficiency of these areas of foreign assistance in the past, but the potential remains to eliminate those inefficiencies. Doing so is more likely to alleviate poverty, bring more equitable income distribution and fight malnutrition than it is to foster more rapid economic growth. Both food aid and agricultural development assistance have been under scrutiny and have been reformed significantly over the last several decades. Continuing that reform, and enlisting more effective collaboration between international donors and national governments, is needed to insure that the potential for greater worldwide food security is realized.

References

- Abbott, P. (2009). 'Development Dimensions of High Food Prices'. OECD Food, Agriculture and Fisheries Working Papers 18. Paris: OECD.
- Abbott, P., and A. Borot de Battisti (2011). 'Recent Global Food Price Shocks: Causes, Consequences and Lessons for African Governments and Donors'. *Journal of African Economies*, 20(1): i12–i62.
- Ad Hoc Advisory Group (2009). 'Smallholder Food Production and Poverty Reduction: Principles for a Financial Coordination Mechanism (FCM) to Support Smallholder Farmers'. Madrid, Spain: Ideas Foundation, Madrid Conference on Food Security.
- AGRA(2009). *Alliance for a Green Revolution in Africa*. Nairobi: AGRA.
- Awokuse, T. O. (2011). 'Food Aid Impacts on Recipient Developing Countries: A Review of Empirical Methods and Evidence'. *Journal of International Development*, 23(4): 493–514.
- Barrett, C. B. (2002). 'Food Security and Food Assistance Programmes'. In B. Gardner and G. C. Rausser(eds), *Handbook of Agricultural Economics*, vol. 2. Amsterdam: Elsevier.
- Barrett, C. B., and D. G. Maxwell (2005). *Food Aid after Fifty Years: Recasting Its Role*. London: Routledge.
- Basu, K. 1996. 'Relief Programmes: When it May Be Better to Give Food Instead of Cash'. *World Development*, 24(1): 91–6.
- Binswanger-Mkhize, H., and A.F. McCalla (2010). 'The Changing Context and Prospects for Agricultural and Rural Development in Africa'. In P. Prabhu and E. Robert (eds), *Handbook of Agricultural Economics*. Amsterdam: Elsevier.
- CAADP(2011). *Comprehensive Africa Agricultural Development Programme (CAADP)* Midrand. South Africa. Online. Available at: www.caadp.net/ (accessed September 2011).
- CGIAR (Consultative Group on International Agricultural Research (2011). CGIAR Fund Update. Washington, DC: World Bank.
- Crola, J. D. (2009). 'Aid for Agriculture: Promises and the Reality on the Ground'. Oxfam International Research Report. Paris: OXFAM France.

- Daviron, B., N. N. Dembele, S. Murphy, and S. Rashid (2011). 'Price Volatility and Food Security'. Report by the High Level Panel of Experts on Food Security and Nutrition. Rome: Committee on World Food Security.
- Demeke, M., G. Pangrazio, and M. Maetz (2008). 'Country Responses to the Food Security Crisis: Nature and Preliminary Implications of the Policies Pursued'. Rome: FAO, Agricultural Policy Support Service.
- DeSchutter, O. (2011). 'Agroecology and the Right to Food'. Human Rights Council Report A/HRC/16/49. New York: United Nations.
- Dorward, A., E. Chirwa, D. Boughton, E. Crawford, T. Jayne, R. Slater, V. Kelly, M. Tsoka (2008). 'Towards "Smart" Subsidies in Agriculture? Lessons from Recent Experience in Malawi'. *Natural Resource Perspectives*, 116. London: ODI.
- FAO (Food and Agriculture Organization) (2008). *The State of Food Insecurity in the World 2008*. Rome: FAO, Economic and Social Development Department.
- FAO (2009). 'How to Feed the World in 2050'. Rome: FAO. Available at: http://www.fao.org/fileadmin/templates/wsfs/docs/expert_paper/How_to_Feed_the_World_in_2050.pdf.
- FAO (2011a). 'European Union Food Facility, Foundations for Future Action: An Initial Review of Selected Projects'. Rome: FAO. Available at: www.fao.org/documents/pub_dett.asp?lang=en&pub_id=291476.
- FAO (2011b). FAOStat database. Rome: FAO. Available at: www.faostat.fao.org/.
- FAO, IFAD, IMF, OECD, UNCTAD, WFP, WORLD BANK, WTO, IFPRI and UNHLTF (2011). 'Price Volatility in Food and Agricultural Markets: Policy Responses'. Rome and Paris: FAO and OECD.
- FAS-USDA (Foreign Agricultural Service-USDA) (2011). PS&D Online Database. Washington, DC: USDA.
- Fisher, F. M. (1963). 'A Theoretical Analysis of the Impact of Food Surplus Disposal on Agricultural Production in Recipient Countries'. *Journal of Farm Economics*, 45(4): 863-75.
- Fiszbein, A., and N. Schady (2009). 'Conditional Cash Transfers: reducing Present and Future Poverty'. WB Policy Research Report. Washington, DC: World Bank.
- G8-G20 France (2011). Official Website of the French Presidency of the G20 and G8. <http://www.g20-g8.com/g8-g20/g20/english/home.9.html>
- GAFFSP (Global Agriculture and Food Security Programme) (2011). Washington, DC: World Bank. Available at: www.gafspfund.org/gafsp/
- Gilligan, D. O., J. Hoddinott, and A. S. Taffesse (2008). 'The Impact of Ethiopia's Productive Safety Net Programme and its Linkages'. IFPRI Discussion Paper 00839. Washington, DC: IFPRI.
- Global Donor Platform for Rural Development (2008). 'Agricultural Sector Experiences in Implementing the Paris Declaration on Aid Effectiveness'. Bonn: Global Donor Platform for Rural Development.

- Griliches, Z. (1957). 'Hybrid Corn: An Exploration in the Economics of Technical Change'. *Econometrica*, 25(4): 501–22.
- Headey, D. (2011). 'Was the Global Food Crisis Really a Crisis?'. IFPRI Discussion paper 01087. Washington, DC: IFPRI.
- Hebebrand, C. (2011). 'Leveraging Private Sector Investment in Developing Country Agrifood Systems'. Policy Paper Series, Global Agricultural Development Initiative. Chicago, IL: Chicago Council on Global Affairs.
- Herd, R. W. (2010). 'Development Aid and Agriculture'. In P. Prabhu and E. Robert (eds), *Handbook of Agricultural Economics*. Amsterdam: Elsevier.
- IMF (International Monetary Fund) (2008). 'The Balance of Payments Impact of the Food and Fuel Price Shocks on Low-Income African Countries: A Country-by-Country Assessment'. Washington, DC: IMF, Africa Department.
- IMF (2011). *International Financial Statistics* [Online]. Washington, DC: IMF.
- Ivanic, M., and W. Martin (2008). 'Implications of Higher Global Food Prices for Poverty in Low-Income Countries'. *Agricultural Economics*, 39(s1): 405–16.
- Mellor, J. (1999). *Faster, More Equitable Growth: The Relation between Growth in Agriculture and Poverty Reduction*. Cambridge, MA: Abt Associates.
- Mousseau, F. (2010). 'The High Food Price Challenge: A Review of Responses to Combat Hunger'. Oakland, CA: Oakland Institute & the UK Hunger Alliance.
- OECD (2011). *Creditor Reporting System*. Paris: DAC, OECD.
- OECD–FAO (2008). *OECD–FAO Agricultural Outlook 2008-2017*. Paris: OECD.
- Pardey, P. G., J. M. Alston, and R. R. Piggott (eds) (2006). *Agricultural R&D in the Developing World: Too Little, Too Late?*. Washington, DC: IFPRI.
- Renkow, M., and Byerlee (2010). 'The Impacts of CGIAR Research: A Review of Recent Evidence'. *Food Policy*, 35: 391–402.
- Rosen, S., and S. Shapouri (2008). 'Rising Food Prices Intensify Food Insecurity in Developing Countries'. *Amber Waves*, 6: 16–21.
- Sabates-Wheeler, R., and S. Devereux (2010). 'Cash Transfers and High Food Prices'. Paper presented at the CPRC conference entitled Ten Years of War Against Poverty, 8–10 September. Manchester: Chronic Poverty Research Centre.
- Schultz, T. W. (1960). 'Value of US Farm Surpluses to Underdeveloped Countries'. *Journal of Farm Economics*, 42: 1019–30.
- Stern, R. (2007). *Stern Review on the Economics of Climate Change*. Cambridge, MA: Cambridge University Press.
- Stewart, F. (1986). 'Food Aid: Pitfalls and Potential'. *Food Policy*, 11(4): 311–22.
- Tarp, F. (2006). 'Aid and Development'. *Swedish Economic Policy Review*, 13(2): 9–61.
- Trostle, R. (2008). 'Global Agricultural Supply and Demand: Factors Contributing to the Recent Increase in Food Commodity Prices'. Outlook Report WRS-0801. Washington, DC: ERS–USDA.

- UNHHTF (UN High Level Task Force on the Global Food Security Crisis) (2008). *Comprehensive Framework for Action*. New York: UNHHTF.
- USAID (2011). 'Feed the Future: Global Food Security Research Strategy'. Washington, DC: USAID.
- Winters, P., A. Maffioli, and L. Salazar (2011). 'Introduction to the Special Feature: Evaluating the Impact of Agricultural Projects in Developing Countries'. *Journal of Agricultural Economics*, 62(2): 393–402.
- Wodon, Q., and H. ZAMAN (2008). 'Rising Food Prices in Sub-Saharan Africa: Poverty Impact and Policy Responses'. WB Policy Research Working Paper 4738. Washington, DC: World Bank.
- World Bank(2007). *Agriculture for Development*. World Development Report. 2008 Washington, DC: World Bank.
- World Bank(2011). *Food Crisis: What the World Bank is Doing*[Online]. Washington DC: World Bank. Available: www.worldbank.org/foodcrisis/bankinitiatives.htm
- WFP (World Food Programme) (2009). 'Coping with High Food Prices and the Financial Crisis'. Rome: WFP.
- WFP (2009b). *Purchase for Progress (P4P)*. Rome: WFP.
- WFP (2010 and earlier). 'Fighting Hunger Worldwide'. WFP Annual Reports. Rome: WFP.
- WFP (2011). *INTERFAIS database*. Rome: WFP.