With a near doubling of production between 2000 and 2005, the cocoa sector in Ghana has done well, contributing significantly to overall economic growth. The performance is of particular interest, as Ghana is one of the few countries in which the government, through a cocoa board, continues to play a significant role in production and marketing, offering services to support smallholder production. The superior performance of cocoa, relative to other crops, raises the question as to why the government cannot play a similar role in other crop sectors. The answer may lie partly in the fact that the cocoa sector is administered separately from other crops: strategic thinking about crops in Ghana is increasingly compartmentalized into three types—food crops, horticultural crops, and cocoa—all of which are produced under different institutional arrangements.

As a step toward bringing the cocoa experience into the larger debate about the organization of agriculture and the development of other crops, the Overseas Development Institute (ODI) and the International Food Policy Research Institute (IFPRI) organized a workshop that brought together researchers, policymakers from the cocoa board, industry and farmers’ representatives, and development partners to discuss current research on recent developments in the cocoa sector.

The major objective was to understand what is happening in the sector. The key questions were: (1) What explains the boom, and what role have strong government intervention, high world market prices, a steady increase in the share received by producers, and interventions in input supply played? And (2) what impact partial liberalization, in which private companies were permitted to buy from farmers and supply to the cocoa board, has had on the sector?

Role in the economy. Cocoa production, which has increased through both productivity growth and area expansion, now accounts for nearly 8 percent of GDP, 25 percent of agricultural GDP, 28 percent of foreign exchange earnings, and 5 percent of government revenue. Cocoa farmers have been among the main beneficiaries of the poverty-reduction effects associated with the recent economic growth. The incidence of poverty among cocoa producers was higher than the national average in the early 1990s, but it has gradually declined to a level significantly lower than the national average. Cocoa producers have received increasingly higher prices in recent years, with global price increases largely leading the way until about 2003, and larger shares of prices going to producers since then. The geographical concentration of cocoa in the central and western parts of the country, however, inherently limits its potential for reducing
poverty in the north, where poor people are increasingly concentrated (Breisinger)\(^1\)

The links between cocoa production and cocoa processing, the food industry, and transport and trade services offer considerable potential for multiplier effects throughout the economy. For example, exports of processed cocoa have expanded significantly and continue to grow, but less than 15 percent of the cocoa produced in Ghana is processed. Simulations with an economy wide model suggest that cocoa will have to continue to play an important role in supporting Ghana’s development goals, such as accelerating agricultural growth under the Comprehensive Africa Agriculture Development Programme (CAADP) and reaching MIC status. Results show that to support these goals the cocoa sector will have to grow at around 6 percent annually, with production reaching about 1.3 million tons in 2015. Under this scenario cocoa exports will continue to dominate agricultural exports and help Ghana achieve MIC status, while its share in the economy is likely to decline (Breisinger).

**Productivity growth.** Household surveys conducted since 2001 confirm that cocoa yields have indeed gone up by about a third from 300 to 400 kilograms per hectare, while the production area may have expanded by about 15 percent (Ruf; Vigneri). Surveys conducted in 2002 and 2004 of the same set of households reveal that the amount of labor that households have put into cocoa production has increased. So has fertilizer application—not only have households applied more, nearly ten times more (beginning with a small base), but more of them have applied it (nearly one in two households) (Vigneri). They have also improved crop protection by applying on average more than four insecticide sprays, which is above the recommended number. About half of the applications are “mass sprayings” organized by the cocoa board. Nearly 7 and 5 percent of the yield increases can be attributed to increased input of labor and fertilizers, respectively. Improved plant protection has also raised productivity. Favorable weather conditions in 2004 contributed to the dramatic jump in yields as well. Although yield increases have occurred throughout the cocoa-growing regions, significant regional differences exist.

**A cocoa green revolution?** The technical change in cocoa production in Ghana led initially by the use of pesticides and fungicides and now by the use of fertilizers, began only in the 1990s. The change has meant less reliance on forests, but the use of chemicals has not been free of environmental problems (Ruf). The incentives offered to producers through higher prices have played a major role in bringing about technical change and increased production (Quartey). Fertility decline and the need to go back to “old lands” for cultivating cocoa may also have led to greater use of fertilizers (Kokroko). Price-based

\(^1\) Names in parentheses refer to the workshop participants who made the particular points noted here, either in formal presentations or in other remarks at the workshop. Links are provided to formal presentations—please click on the presenter’s name.
incentives will be difficult to sustain in the long run. While farmers’ share of f.o.b. prices has gone up, the absolute prices they receive will fall when world market prices decline, unless the board retains a share of revenues during good years to compensate farmers during bad years (Quartey). It is unlikely that any government would have the political will to reduce prices to farmers; a global price downturn thus could threaten the financial viability of the cocoa board.

It is not sufficient of course that cocoa producers benefit from increased productivity or higher prices; the more important question is whether they produce enough to meet their livelihood needs. Recent surveys suggest that cocoa producers have become better off in recent years (Jackson). In West Africa more broadly, however, cocoa production may not be profitable for all producers. Only 45 percent of the 2.5 to 3 million cocoa farmers in West Africa make profits, and the biggest 50 percent of the farmers produce 80 percent of the cocoa in the region—it must be noted that these estimates are for 2001 and 2002, when prices were particularly low (Gockowski). Furthermore, cocoa in Ghana is a risky crop, the profitability of which depends on rainfall (Kokroko).

Employment opportunities that are likely to be created by the development of the oil sector in the western parts of Ghana may also reduce production if producers feel encouraged to abandon their farms (Sarpong).

Ghana is nevertheless in an advantageous position compared to other major producers (Ruf). Family farming in Ghana (and Indonesia), unlike the plantations in Brazil and Malaysia, has withstood price collapses. Ghana’s position as a producer is gaining strength because expansion of production in Côte d’Ivoire may no longer be feasible and because yields in Indonesia are declining with the emergence of pests and diseases and soil exhaustion. However, a new disease, swollen shoot, has emerged in Ghana. Producer reluctance to uproot the affected trees—the only effective way to control the disease—may make it a significant threat (Kokroko).

An effectively implemented strategy? In 1999 the government developed a strategy to increase production from nearly 335,000 tons to about 500,000 tons by 2004-2005. That goal has been met, and the government is now aiming to increase production to about a million tons by 2010. Sustained production increases in recent years may have come from some of the key elements of the strategy: cocoa disease and pest control (mass sprayings), a “high-tech” input program initiated in 2003, and payment of remunerative prices to producers (Quartey). The board’s “high tech” program to promote the use of fertilizers has now been taken up by a private firm. Public efforts to make farmers aware of the benefits of using modern technologies may have been critical for private companies to enter the market successfully (Odei-Tetteh). The proportion of producers reached through private programs, however, is still small, and the yield gap between current yields and what can be achieved remains significant, pointing to the need to do much more to increase smallholder producers’ access to inputs. Nevertheless, to the extent that the board’s strategy may have
contributed to increased production—albeit aided by favorable global market conditions—it represents a case of effective formulation and implementation that may have important lessons for other organizations.

**Expansion at what costs?** The expansion of cocoa in Ghana comes with environmental costs. The western region, in which cocoa production is growing at 8 percent annually, is one of 25 global hotspots containing rain-forest remnants of global importance, nearly 90 percent of which have disappeared. While recent household studies suggest dramatic productivity increases in the cocoa sector, longer-term analysis using data from the Food and Agriculture Organization of the United Nations suggests that productivity may have declined marginally in the country: between 1991 and 2005: Ghana’s cocoa output increased by 6 percent while the area expanded by 7 percent, suggesting a decline in productivity of about 1 percent over the 14-year period (Gockowski). In the western region that accounts now for nearly 57 percent of cocoa production, nearly 30 percent is grown without shade; the common method for establishing cocoa here is to clear and burn the forest, unlike in Cameroon and Nigeria where cocoa is planted in thinned forests. Because these full-sun systems are not based on intensive cultivation with appropriate varieties and input application, they do not offer noticeable productivity advantages over shade systems, which do not threaten biodiversity as much. In the western region, where cocoa development is a serious agent of deforestation, more intensive cultivation can reduce the impact on forests. The current policies, such as pan-territorial pricing, however, encourage expansion without intensification in the western region (Gockowski).

Along with the kind of technical change that is taking place in Ghana, there is a need to introduce some environmental components, such as tree planting in cocoa farms; a *double green revolution* is required to make cocoa environmentally less damaging (Ruf). For smallholder cocoa farmers, who need to grow other crops such as cassava between the cocoa trees, however, this may not always be feasible (Kokroko).

The family farming that has endured downturns is also characterized by unacceptable social aspects, such as the use of child labor. A man, woman, and five to six children typically work a unit in Ghana. Farming cocoa isolated areas without adequate infrastructure involves as many as 28 processes, in which children sometimes participate. Cocoa production needs to be “modernized” through labor-saving innovations and labor-substituting capital inputs to discourage or reduce the need to use children (Sarpong).

**What of partial liberalization?** Cocoa producers appear to have benefited from the introduction of licensed buyers. Although the buyers engage in only non-price competition, their presence has resulted in prompter payments, increased access to credit or subsidized inputs, and greater assurances that producers will not be cheated (Laven; Vigneri). In deciding on whom to sell, producers appear to place considerable emphasis on which buyer offers prompt payments and with whom
they have satisfactory social relations (Laven). Although the number of buyers has increased over the years, the producers appear to remain loyal, but surveys do suggest that those that produce larger quantities shop around and sell to more than one buyer. Producers also continue to patronize PBC, the former buying arm of the board. Perhaps this is because the organization is competing effectively, aided by investments and built-up social capital. Liberalization of the sector also has led to the development of farmer organizations like Kuapa Kokoo that offer bonuses to their members by obtaining higher prices in fair-trade markets (Quartey).

The producers, however, do not benefit uniformly from market liberalization: those that are socially connected tend to do better in their dealings with private companies. In some communities, few benefit from services offered by private buyers, which are in any case declining in number over time. Sharecroppers, for example, are rarely offered services. The benefits from public sprays are also uneven: not all producers receive all the sprays they are entitled to (Laven). Although the number of buyers has increased, the producers do not appear to take advantage of the competition among a number of buyers. The lack of producer agency in the marketplace is a concern, and one wonders whether they would become my dynamic with further liberalization (Laven). On the other hand, whether the kinds of investments that the board has made to support smallholder production would be forthcoming from the private sector is something to consider (Addo).

That governments have a role to play in supporting smallholder production is widely recognized, including in the World Bank’s recent World Development Report, but the critical question is whether the interventions are cost effective (Jackson). Can an alternative system fetch higher prices in the global market and offer producers a higher share of the prices obtained through greater marketing efficiency? The question raises the issue of what further reforms could accomplish (Kolavalli). For example, would global firms that are more capable of managing risks in the global markets or reaching niche markets bring higher returns to Ghana’s cocoa sector? The board’s original plan to have about 30 percent of cocoa production exported through private companies appears to have been shelved without any pressure to do so from multilateral organizations that forced the partial liberalization.

The prospect of Ghana’s cocoa marketing being controlled by global firms may have discouraged further liberalization. Some studies suggest that liberalization in Côte d’Ivoire and Cameroon resulted in the backwards integration of global firms replacing state monopsony with private oligopsony to the detriment of producers. In contrast, the liberalization in Nigeria led to the development of an indigenous class of exporters that successfully competes in global markets with many positive spillover effects in other markets. Bonded warehouse-receipts financing and the relative maturation of the Nigerian banking sector are believed to have aided the emergence of this group of entrepreneurs.
Governance. How the board manages its conflicting role both as a regulator and as a player in the market and what it does with more than 30 percent of the price it retains are two governance issues in the cocoa sector (Jackson; Laven). Although some of the expenditures of the cocoa board on scholarships and roads, for example, are transparent (Quartey), it is not clear whether the producers have adequate input into how the funds are spent. For example, do they have adequate input in determining priorities for cocoa research? Having governing structures in which producers play an important role is necessary to avoid actions such as the one producer in Ghana took in 1937, withholding cocoa for several months. Similar protests are occurring today in Côte d’Ivoire.

Perceived as an arm of the government and therefore vulnerable to political pressures, the board faces difficulties in managing the market. Inefficient buyers, for example, cannot be left to die. Although credit supply is necessary for intensification of production, the board is not in a position to offer credit. Instead it expects the private sector to intervene, despite its dominant market position, which should enable it to develop systems for better production support. On the other hand, the limited role that it grants to the private sector prevents the private sector from effectively supporting production. In Nigeria and southwest Cameroon, for example, cocoa exporters supported by banks finance production credit through their networks of village-based, licensed buying agents. Coverage is quite broad (over 60 percent of producers take loans that average about $250) with satisfactory levels of repayment. For Ghana to intensify its production, rural credit constraints need to be overcome.