

## Management Response

1. See *World Development Report 2008: Agriculture for Development, Discussion Draft*, May 21, 2007. The final version of the WDR is scheduled to be launched on October 19, 2007.

2. IEG notes that its review presents country-specific data to show the differences in performance among three categories of countries: the comparatively better performers, the medium performers, and the poor performers. Aggregation of growth rates for agriculture for Sub-Saharan Africa as a whole presents challenges given the wide variation in the rates and sources of growth across countries (see chapter 2 and appendix table B.2 of the IEG report).

3. IEG notes that some recommendations of its study that are critical for the development of agriculture in Sub-Saharan Africa, such as the importance of increasing the productivity of rain-fed agriculture, have not been addressed in the Management Action Record.

Management notes that it fully agrees with the importance of increasing the productivity of rain-fed agriculture. The elements of the actions it is undertaking in supporting comprehensive agricultural programs at the country and regional levels as noted in the Management Action Record are defined to accelerate growth and productivity. As is now the case, most improvements will be achieved in rain-fed areas, even with the planned expansion of irrigated areas.

## Chapter 1

1. Using a poverty line of US\$2.15 per day.

2. “But the decision of Africa’s new leaders to invest in industry in isolation from village agriculture and rural industries was also consonant with the views of many Western development economists in the 1950s, who assumed that agriculture was a passive sector, a black box that could be squeezed to finance industry” (Eicher 1999, p. 17).

3. “In Africa, instead of focusing on food production

and the building of the basic institutions for a modern agriculture over a period of decades, donors jettisoned much of what had been learned about the agriculture development experience in Asia and in the seventies introduced new programs, such as a diffused provision of services targeted to the poor, integrated rural development, programs targeted to women and an attack on environmental problems. These programs overlooked the critical need to address concurrently agricultural productivity and sustainability issues” (Mellor 1998, p. 59).

4. “Because most land is held communally in Africa, in most cases rural inequality does not stem from severe inequality in landholdings. Rather it reflects geographic differences in the quality of land, in climatic conditions, and in access to markets and to remittances from urban areas” (World Bank 2000, p. 93).

5. Many rural and urban poor in Africa are net food buyers (Christiaensen and Demery 2007).

6. Diao and others (2006) report similar findings.

## Chapter 2

1. Similarly, in Mozambique, the growth rate jumped in the 2000–04 period because of the post-conflict resettlement of refugees in the rural areas and the resulting expansion in production (World Bank 2006g).

2. Management agrees that agricultural growth and productivity must increase relative to current levels, and notes that the growth rate of agricultural GDP in Sub-Saharan Africa in the period 1980–90 averaged 2.3 percent annually. This rate increased to 3.3 percent annually between 1990 and 2000, and to 3.8 percent annually between 2000 and 2005 (World Development Indicators, 2007). IEG notes that these numbers mask substantial variation across countries and over time.

3. A background paper produced for the *Commission for Africa Report* (2005) found that international efforts for harmonizing disbursement and procurement procedures among donors and aligning them more closely with the procedures of African governments have im-

proved coordination. While these changes are welcomed by African governments, they are also seen as focusing more on harmonization of procedures than on aligning donor policies with those of the strategies of African governments (Johnson, Martin, and Bargawi 2004).

4. “We will no longer look only at irrigation and drainage, but also at water resource allocation and comprehensive management. We will not deal with agriculture, forestry, or livestock separately, but with the management of natural resources in sustainable production systems. We will look at rural entrepreneurship instead of agricultural credit, off-farm employment, agro-industries and marketing in isolation. And we will integrate human capital development, infrastructure, and social development into rural development strategies and programs” (World Bank 1997c, p. 17).

5. Agro-ecological zones share similar soil, landform, and climatic characteristics.

6. Management notes that Africa’s physical endowment is more favorable for agriculture than this characterization suggests.

7. “That diversification is partly a response to climatic risk is shown by differences in the extent of crop diversification between ecological zones: in the humid forest areas where rainfall is reliable households often are highly specialized, growing only one or two crops. Similarly, households living in the Sahelian zone in West Africa are more diversified than households in areas with more reliable rainfall” (Collier and Gunning 1997, p. 15).

8. Millet is grown in difficult agro-ecological situations (low rainfall, high temperatures, and degraded soils) where maize and sorghum production may not be possible or as productive. Millet is also able to access water from much lower in the subsoil than maize and sorghum. This means that if nitrates are leached beyond the effective depth of a sorghum root system (a common occurrence in the semi-arid tropics), millet plants may still be able to use these nitrates (Yanggen and others 1998).

9. Also, fertilizer response declines as soil health, especially organic content, declines.

10. Four countries in Sub-Saharan Africa have average intensity of fertilizer use greater than 25 kilograms per hectare: Kenya, Swaziland, Malawi, and Zimbabwe. Kenya in particular has experienced tremendous growth in fertilizer use since the early 1990s (Ariga, Jayne, and Nyoro 2006).

11. Research has opened a range of intensification options for individual farmers. These lie along a continuum from adoption of extensive farming only (if sur-

plus land is available) to a low-input sustainable approach (that uses minimum tillage, labor-intensive recycling of nutrients by alley cropping, green manuring and composting, and little or no fertilizer, pesticides or herbicides) to a high-input farm capital intensification (including fertilizers, pesticides, and the like) approach. An individual farmer could be anywhere on the continuum, depending on his individual circumstances, including: access to land and extension, education and tenure arrangements, the need to spread risk, and access to inputs and credit, among other factors.

### Chapter 3

1. A review of Bank data indicates that in some countries only one piece of AAA is conducted every year, and in some years none is undertaken.

2. “In the cases of PERs, for example, which are supposed to pull together themes for various sectors, the technical input from ARD sector specialists is often limited to reviewing drafts at a late stage when such inputs are least effective. Even in countries in which the Bank is heavily involved in areas such as rural infrastructure, rural education and health, integration of ARD sector work was often hard to detect” (QAG 2004, p. 6).

3. QAG reports also note weak linkages with lending operations, “sector studies are frequently undertaken to justify/support operations in advanced stage of preparation instead of preceding such preparation efforts.” (QAG 2004). The same QAG report also points to “limited impact of the analytical work on the client and the Bank due to shortcomings in dissemination, the short ‘shelf-life’ of reports, and inadequate systems for archiving, updating and accessing AAA reports” (p. 3).

4. QAG review of Quality of Country AAA (QAG 2005) notes that “Both an analysis of the country assessments and an in-depth review of eight countries that were identified because of their importance for the Bank’s program in the Agriculture and Rural Development (ARD) area, suggest that there is an under investment in analytic work in this sector relative to its importance for poverty reduction. The gap was most pronounced in the cases of the Africa and South Asia Regions” (p. 71).

5. “The Bank is slow to revise country AAA in response to political, economic or other changes within the country” (QAG 2005, p. 35).

6. A QAG assessment of the ARD AAA program noted “the Bank appears to have a very porous institutional memory and an entirely inadequate filing system (elec-

tronic or otherwise). Many reports were missing or could only be located with difficulty.” The study urged ARD to make “greater effort to accurately record AAA tasks in SAP (a Bank data management system) and to ensure that reports are properly archived and readily available to the staff and the client.” (QAG 2004, p. 12). An ARD annual retrospective of agriculture and rural analytical work also found that of 186 agriculture and rural ESW reports completed between fiscal 2000 and 2004, only slightly more than half were available in the Bank’s internal database and ImageBank.

7. Internal reports have also noted that the Bank is missing opportunities to disseminate analytical work of potential interest to clients, particularly by not translating reports into local languages and by not formally publishing them.

8. “Sector ‘silos’ are very apparent in the AAA work program, with little or no evidence of interaction between sector departments” (QAG 2004, p. iii; QAG 2005, p. 35, has a similar finding).

9. The dollar amount assigned to agriculture in a development policy loan is not a meaningful number as it is based on sector assignments by task teams.

## Chapter 4

1. “There was a significant reduction in the numbers of technical staff, including particularly valuable individuals with long experience for whom no position could be found at the grade to which they had previously been promoted on the basis of their performance. These senior professionals were offered a choice of either a position at a lower grade, or substantial monetary compensation if they chose to leave the Bank. This exacerbated the attrition of very experienced technical staff resulting from normal retirement” (World Bank 1991a, pp. 4–5).

2. Management notes that technical expertise of staff is more readily seen in their CVs and educational background than in the Human Resource database. Moreover, Bank teams work regularly with technical staff from other institutions, such as FAO.

3. Decentralization involved a large percentage of Bank staff being located in the field offices. The logic behind the decentralization was to delegate authority, functions, and staff to country offices weighing, on a case-by-case basis, the advantages of local responsiveness with the need to retain our global perspective—and balancing all this carefully against cost considerations (World Bank 2001b). More than 70 percent of country

directors in the Africa Region today are based in client countries.

4. A long-standing research program of the World Bank Institute and the Research Department of the World Bank defines governance as the set of traditions and institutions for the exercise of authority in a country. The research reveals that the political, economic, and institutional dimensions of governance can be captured by six aggregate indicators: voice and accountability, political stability and absence of violence, government effectiveness (including the quality of public service, policy formulation, and government commitment), regulatory quality (including the ability of the government to formulate and implement sound policies and regulations), rule of law, and control of corruption (World Bank 2006i). While some of these aspects are discussed here, others are picked up in the section on policy and marketing reform in chapter 5.

5. Since the early 1990s, under the Special Program for African Agricultural Research (SPAAR), many national agricultural research systems (NARS) began rethinking their institutional model and moving away from top-down, supply-driven, publicly financed models toward more open and client-driven systems (CGIAR 2002).

## Chapter 5

1. Management notes that agricultural technology projects support adoption of a range of technologies suitable for different agro-ecological conditions.

2. IEG’s recent study of natural disaster assistance (IEG 2006c) also found that a many Bank projects can be characterized as ad hoc responses. The study also found that the Africa Region had the largest number of Bank-funded disaster projects and the lowest outcome rating.

3. Acute food insecurity results from short-term shocks (such as droughts) that reduce food availability, access, or utilization for an individual. Chronic food insecurity is limited access to food on a long-term basis and results from poverty, poor soil fertility, and food production and distribution systems with high unit costs.

4. A recent study (Anderson and others 2005) of links between CGIAR products and Bank operations, while noting important linkages, also notes that “the linkages and synergies between World Bank-financed projects, the IARC [International Agriculture Research Centers] research programs and the NARSs [National Agriculture Research Systems] in Eastern Africa have often been more by accident than by design” (p. 35).

5. A Country Assistance Evaluation for Malawi (IEG 2006e) that assessed the Bank's assistance to Malawi during fiscal 1996–2005 found that the Bank did not make an effective contribution to the development of the agriculture sector for various reasons:

*First, the Bank's agriculture sector project implementation record has not been good. There have been six completed projects since FY96, only one of which has had a satisfactory outcome rating. Second, the Bank moved away from direct investments in the sector, addressing agricultural and rural economy issues primarily through multisector adjustment loans. This approach diluted the significance and impact of Bank interventions. Third, the Bank did very little policy analysis until 2003. Fourth, attempts to improve the quality of burley tobacco and strengthen farm-to-market links have not been successful. Finally, progress in developing Malawi's rural financial markets has been insubstantial. Thus, with respect to the sub objective for improved agricultural productivity and more efficient marketing, the outcome is unsatisfactory” (IEG 2006e, p. 32).*

It is worth noting that in the early 1990s, considerable policy analysis was carried out but it did not lead to effective results on the ground.

6. Only in fiscal 2006 did the Bank approve an irrigation, rural livelihood, and agriculture development project that is expected to contribute to increasing agriculture productivity.

7. Management notes that in the past two years, Malawi has had exceptional harvests and has exported maize. The success is not just because of good rains. It is also the result of a government program promoting access to inputs for smallholders, a fertilizer for work program under an IDA-financed Irrigation and Rural Livelihoods Project, and an overall improvement in the macro policy environment. Management also notes that the new generation of IDA-financed operations is contributing to food security and reducing the impact of drought by supporting irrigation and water harvesting, strengthening access to and supply of inputs, and supporting a number of critical institutional reforms and innovative approaches to risk management (including warehouse receipts, weather insurance, and commodity futures). IEG notes that 2004/05 had the lowest level

of maize production since 1996–97. (See IEG's recent project assessment of the Malawi Emergency Drought Recovery Project, IEG 2007f) and that a number of the initiatives mentioned are still works in progress and it is too early to judge their impact.

8. IEG's natural disaster study found that Africa was also the only Region where borrowing for disasters was most often for droughts.

9. Management appreciates IEG's recognition of its role in supporting the development of improved, disease-resistant varieties of cassava. However, management would not see cassava as a missed opportunity for the Bank. The Bank does not specifically target production of cassava or other crops. Instead it supports countries in their efforts to improve the institutional setting for agriculture, generate technology improvements, and enhance the information available to producers to make their own decisions regarding production and marketing. In that context, reforms supported by the Bank that encouraged the removal of pan-territorial pricing for maize and fertilizer subsidies were key. These reforms resulted in a shift from maize to cassava in many marginal areas where cassava is the more suitable crop. The Bank's support for advisory services and technology dissemination, for example, under the Uganda National Agricultural Advisory Services Project, is the kind of activity that helps get farmers the information they need when they are deciding what crop to plant. (Management would also note in this context that the Bank serves as the implementing agency for IFAD's project on roots and tubers in Ghana.) Last, since cassava can be stored underground without harvesting for several years in the drier areas where it is produced, the counter-cyclical production with maize in figure 5.1 is probably largely increased harvesting instead of increased production per se.

10. In addition to the portfolio review, which was carried out on a sample of projects, this review looked at the objectives of all closed projects and found only one that included improving soil fertility as a project objective.

11. The initiative was launched in 1996 in response to concern from various stakeholders, with support from the World Bank, FAO, other donors, the CGIAR (represented by ICRAF), IFDC, and NGOs such as SG2000 and had as its original goal to help facilitate the introduction and adoption of sustainable soil fertility management practices by smallholder farmers.

12. The emphasis on environment also led to increase

in natural resource management in Bank agricultural initiatives in the 1990s (World Bank 1991c). Other analytical work in the late 1990s (World Bank 1997a, p. 3) also noted that “most of the literature now agrees that the major environmental issue facing most of Africa is a combination of soil, water, forest, and pasture degradation in rural areas. The major cause is expansion of farming area resulting from growth of the rural population combined with farming practices that often mine the soils and cut forests for fuelwood and farming.”

13. “In the late 1980s, sustainability emerged as a critical issue in African policy circles, because of famine, growing evidence of land degradation, deforestation and desertification and because of a rebirth of concern in developed countries for the environment. These forces translated into pressure on foreign assistance agencies to undertake environment programs, and in their interactions with African policy makers to insist on the urgency of addressing environmental problems” (Reardon 1998, p. 446).

14. The InterAcademy Council (2004, p. 202) report also notes, “A case can be made for selective subsidies on strategic inputs, such as fertilizers, until infrastructure can be improved to the extent that prices paid and received by African farmers are more in line with international competitors.”

15. A recent study (Anderson and others 2005) found that, on average, well over one-half of the genetic material used for crop improvement in the East African Community countries in commodities such as maize, cassava, beans, wheat, rice, legumes, and that involving agroforestry was provided directly by the CGIAR Centers to the national programs concerned.

16. The International Institute of Tropical Agriculture undertook a study to assess the level of adaptation and diffusion of the new extra-early maize technology since its introduction in villages in northern Nigeria in 1997. The study examined the rate of adoption of extra-early maize varieties and determined the factors influencing adoption and the constraints to adoption. Data were collected from 220 farming households in 14 villages. Out of 220 farmers selected in the random sample, only 20 farmers were growing the maize at the time of the survey. The major constraints to the adoption of extra-early maize varieties in the study villages were input related. Constraints cited very often by the adopters included unavailability of fertilizers (86.67 percent), unavailability of seed of extra-early maize (63.63 percent), labor constraints (36.67 percent), and land ownership

problems (26.67 percent) (IITA 2004).

17. The dent hybrids [of maize] are much more vulnerable to damage by weevils in storage than the flinty local varieties. The introduction in the mid-1990s of the semi-flint varieties, which are more resistant to weevils, has made hybrids more popular than before. However, since they are not as resistant as local varieties, most farmers still prefer to grow both. While the breakthrough in breeding semi-flint hybrids has been important, the escalating cost of fertilizers and other inputs has made it difficult for farmers to grow more hybrid than local maize (Peters 2002).

18. Exposure to droughts and weather-related uncertainties affect farmers’ incentives to adopt high-risk technologies and they often forgo available technologies that would require them to use fertilizers that would yield higher outputs, but are also riskier (Dercon and Christiaensen 2005).

19. “Public investment in marketing and transportation infrastructure would reduce input costs and increase producer prices by reducing transportation costs” (Ahmed, Sanders, and Nell 2000, p. 62).

20. Most African farmers currently know little about the range of plant varieties being developed and released by national crop improvement programs (Tripp and Rohrbach 2001). Effective smallholder seed supply systems are also still widely lacking in Africa (Sasakawa Africa Association 2004b).

21. Within a financial systems approach, financing for agriculture is seen as part of the wider rural finance market. In this approach, the appropriate role of the public sector is seen as ensuring that the environment is conducive to the emergence and growth of institutions adhering to commercial principles.

22. Supervision reports acknowledge that the rural and community banks lack the tools to successfully tackle agricultural lending.

23. An IEG review in 1996 found that the decline in Bank support for agricultural credit, which began in the early 1980s and persisted through 1992, continued in the middle 1990s. Another IEG study also noted the low lending for lines of credit in Africa over the period of fiscal 1993 and 2003 (IEG 2006h).

24. Management notes that the Bank has made a major commitment to increased transport in Africa, and virtually all of this benefits agriculture. Notably, passable trunk and secondary roads are a prerequisite for tertiary roads to play their role. Improvement has lagged in farm-to-market roads because of limited re-

sources and the need to take on necessary priority investments first. In recent years, transport ministries in Africa supported by Bank teams typically work closely with agriculture ministries in setting transport priorities.

25. This section is an assessment of the overall extension approach, and not the subject areas where extension advice has been provided through Bank projects.

26. The InterAcademy Council sponsored a study to understand how to improve agriculture productivity and food security in Africa at the request of the then-Secretary General of the United Nations Kofi Annan.

27. “The Farmer Field School is a form of adult education, which evolved from the concept that farmers learn optimally from field observation and experimentation. It was developed to help farmers tailor their Integrated Pest Management (IPM) practices to diverse and dynamic ecological conditions.” [http://www.fao.org/docrep/006/ad487e/ad487e02.htm#P20\\_3691](http://www.fao.org/docrep/006/ad487e/ad487e02.htm#P20_3691)

28. The project assessment of the Tanzania Second Agricultural Extension Project notes that if public extension does wither and die, it seems likely that the poorer farmers and those predominantly producing food crops will suffer disproportionately. There is some global evidence that non-public extension, as might be expected, tends to target higher-income farmers. In Tanzania, whether such an approach could relieve sufficient budgetary burden at the top end to enable the poor at the bottom end to be adequately covered is doubtful.

29. “The critiques of ‘top-down’ development and the call for more ‘bottom-up’ or participatory approaches

should direct us not to oppose science/scientist to tradition/farmer but to help develop collaborative methods between rural producers and scientists/extension staff to identify, refine and circulate useful knowledge and ‘best bets.’ The aim is not to identify a single best solution for all times and places, but to recognize that multiple situations require multiple answers and that these necessarily change” (Peters 2002, p. 35).

30. “Pluralistic strategies often entail a change in roles and can run into active opposition of suspicious public agencies. In pursuing such a strategy, government requires a better understanding of existing extension services, and most cases suggested that the design of an extension policy supportive of a pluralistic system should begin with an inventory of the actors as in who provides what to whom, and an assessment of the quality of the services rendered before deciding on any reform” (World Bank 2004b, p. vii).

31. Christiaensen and others (2002), on the basis of their work in Africa, also found that households with larger private endowments such as land are in a better position to profit from new opportunities generated by liberalization and institutional change.

32. A value-cost ratio indicates the profitability of fertilizer application on crops.

33. That “getting prices right” could not—by itself—put African agriculture on the growth path was emphasized by the Bank-supported Managing Agriculture Development in Africa (MADIA) study way back in 1989, but evidently the lessons were not learned.