PART VI

Conclusions

23 Conclusions for Agricultural Commercialization Policy

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Agricultural commercialization, economic development, and nutrition are linked with one another. Policies influence the strength and direction of these linkages and welfare outcomes. Ignoring the linkages may be to the disadvantage of the nutritional welfare of the poor; opportunities to improve the well-being of the poor may be lost. In this concluding chapter, we attempt to draw some generalized lessons from the preceding chapters.

Integration of traditional smallholder agriculture into the exchange economy is part of a successful development strategy. Specialization and commercialization of farming households within a more diversified agricultural and rural economy are part of the development process. Specialization and development of markets and trade, which are characteristic of commercialization, are fundamental to economic growth.

Agricultural commercialization in low-income countries will generally grow over the coming decades due to urbanization and growing incentives for regional and farm-specific specialization in the context of diversifying rural economies. An optimistic scenario of a smooth transition from subsistence-oriented smallholder production systems to commercialized agricultural systems, cannot, however, be assumed. The commercialization of agriculture for economic development and nutritional improvement is not a matter of isolated projects but of a range of policies. The policies needed for a smooth transition to overcome the disadvantages of subsistence agriculture are discussed below. They include macro policy reform, infrastructure policy, agricultural technology development and dissemination, land tenure, rural finance policies, and complementary measures in education and health.

A pessimistic scenario where commercialization of agriculture would hamper economic development can be easily painted, too. This could happen in areas where rural infrastructure is deteriorating and the policy and security environment is such that rural households are forced

into subsistence orientation. Large parts of Sub-Saharan Africa's rural areas may be threatened by such antidevelopmental trends. A related set of market failure factors may accelerate the shift into subsistence agriculture in several former centrally planned economies, such as in Central Asia. The mix of earlier excessive specialization in agriculture, disruption of interregional exchange, and the absence of social safety nets may further stimulate subsistence orientation. Thus, we may expect that the commercialization of agriculture will not progress smoothly and that there will be backlashes resulting from past or current policy failures. This topic will probably stay with the development research community for longer than we hope.

However, the developing world cannot afford the inefficiencies in resource allocation, especially of human and land resources, that subsistence agriculture entails under a long-term perspective. Of course, given current infrastructure, technology, education, and social security systems—or rather the lack of all these—subsistence agriculture is often the only feasible and most efficient mode of economic activity in rural areas of low-income countries. To overcome the subsistence orientation, however, in such a way that the poor are not adversely affected even in the short run remains the challenge of policy on commercialization of agriculture for economic development and nutritional improvements.

Scope for Public Policy

The foreign exchange constraints and heavy debt burdens of many developing countries provide further impetus for greater export orientation of agriculture. An expanded and more efficient agricultural export sector is a cornerstone of many economic reform programs in low-income countries.

Obviously, successful development in the staple food sector, through technological change and appropriate sectoral policies, and growth in the cash crop sector are not mutually exclusive. Appropriate policies for input supply, output marketing, and rural infrastructure development benefit both sectors and are crucial for their growth (chapter 6).

While commercialization of agriculture might essentially be considered a matter of stimulated private sector activity, it is also true that public action is essential for facilitation of the power of its "driving forces." As principal driving forces of commercialization, we identified (in Part IV) macro and trade policies, market reform, rural infrastructure improvement, and the development of legal and contractual (institutional) environments in which farmers and processors may operate. Policies related to these driving forces will strongly influence the nature

and speed of the agricultural commercialization process, which, in turn, will determine to which extent and how soon the risks of subsistence agriculture for farmers and nonfarmers, that is, the risks of thin and volatile markets, can be reduced.

The trade and exchange rate policies of countries are of critical importance for the profitability of crops. The picture of protection and taxation in the study settings is mixed: while sugar in the Philippines and Kenya and rice in The Gambia were protected, export vegetables in Guatemala were implicitly taxed (chapters 13, 16, 22, and 12). An open trade environment, both domestically and internationally, is a prerequisite for success in capturing the long-run gains from specialization (chapters 6 and 7).

It should be stressed that not only at the (macro) level of the driving forces does public and state action play a key role in shaping the commercialization process. It also applies to the program level. In virtually every one of the 11 cases studied, central or local government action or donor policies impacted on stimulation of commercialization and its outcomes.

High risks to poor farm households and high transaction costs are the basic reasons for high prevalence of subsistence farming. Subsistence farming must be phased out in low-income countries via developmental progress in the driving forces of commercialization mentioned above. Policy must facilitate a transition that does not unduly replace (old) subsistence-related production risks with (new) market and policy failure risks, which poor smallholders may not be in a position to estimate. Avoidance of trade shocks and concern for appropriate scheduling of input and output market reforms are important considerations in this respect.

Even with well-functioning factor and product markets, it is easy to construct scenarios in which some poor producers would lose from commercialization. Such scenarios discussed below include the "agricultural treadmill," late access to new commercialization and technical options, and a host of "bad policies."

Increased market supply facing highly inelastic demand is one such scenario in which some producers lose. The resulting agricultural treadmill—increased supply leading to lower prices—is a reality with important regional and international dimensions. However, its potentially serious damage is often diluted by inbuilt compensating effects. In particular, the favorable effects for consumers should be taken into account when one is weighing the disadvantages of the agricultural treadmill for small nonadopters. Assessing the effects of commercialization and technical change from the perspective of producers only is misleading. Once the consumption effects and other general equilibrium

effects are included in the assessment, the treadmill effects are usually seen to be diffused (Binswanger and von Braun 1991). Commercialization and specialization are usually introduced for commodities whose demand is elastic—often as a means of bypassing the problem of inelastic demand faced by traditional commodities. It is, therefore, difficult to construct scenarios in which commercialization by itself—unaided by failures of institutions, policies, or markets—has adverse consequences.

The relative seriousness for the poor of the various scenarios differs; the worst outcomes arise when several scenarios or effects coincide. Late adoption of new technology or commercialization options is a case in point. The risks associated with new technology or new crops discourage poor farmers from adopting them early; when combined with treadmill effects, late adoption, then, is likely to injure the profits of poor farmers or close their doors to adoption, or both. Many of the case studies in this book show that late adoption is not a general problem, and that policy and program designs have a key role to play. Potential adverse effects can also be mitigated by government action. Credit policies and extension services are often biased against the poor. Government policies can facilitate market or capacity expansion where doors have been closed and can help the poor to seize opportunities related to commercialization and technical change and thereby derive the benefits (Binswanger and von Braun 1991).

Many adverse circumstances arise not because of the inherent nature of the commercialization opportunity but because of bad policy. Constraints on trade (chapter 20), coercion in production, and ill-advised tenancy laws are government actions that may turn a promising opportunity into a disadvantage for the poor. The answer to many of these issues, then, is policy reform rather than reversal or deceleration of technological advance and commercialization (Nerlove 1988).

The growth potentials of commercialization undoubtedly offer opportunities to "extract surplus" or to steal and exploit where not much was available to rob in the first place under subsistence production conditions. This, however, can hardly be a convincing argument to avoid commercialization for such reasons. Obviously, exploitative policies need to be corrected where they exist. The conclusion that policy changes can either avert or mitigate adverse effects of commercialization of subsistence agriculture is based on the assumption that the policy and institutional responses are exogenous and independent of the expanded commercialization. In some cases, however, institutional changes and policy responses are not exogenous but reflect existing conflict among social groups. The perverse responses, then, are a logical outcome of these conflicts and cannot easily be altered by a benevolent policy. Some cases of tenant eviction fall in this category (chapter 13) (von Braun, de

Haen, and Blanken 1991). Where institutional and policy responses are endogenous in this way, more pessimistic conclusions are warranted about the benefits of commercialization for politically weak and poor groups. An important issue for further empirical research, therefore, is the extent to which these responses are endogenous (de Janvry and Sadoulet 1989).

One of the generalized conclusions from this study of actual commercialization experiences is that the effects for the poor are specific to location, implementation, and policy environment. Still, some general policy conclusions regarding food security, employment, income, women's role, and child nutrition can be derived from the experiences studied.

Subsistence Production and Food Security

There is a conscious effort by smallholder producers in all study settings to maintain subsistence food production along with new commercial production, despite apparently higher returns to land and labor from the cash crops. While cultural and taste factors may play a role, this reliance on food from own production under household control is a response to high transaction costs and risks related to market, employment, and production. It can largely be viewed as an insurance policy of farm households in response to a risky income environment. The higher the transactions costs are in food markets and the closer households are to food insecurity, such as in the extremely poor study environments of Rwanda and Malawi, the stronger is their preference for high shares of subsistence production (chapters 18 and 20). The poor are the ones most forced into adopting this strategy. Theoretically, this strategy of farm households may be viewed as a second-best solution, compared to full market integration as related economic benefits of specialization are forgone. However, given risky economic environments and missing insurance markets, maintenance of own food supplies can be economically a first-best strategy under existing circumstances. Agricultural policy can effectively assist in its transformation by promoting technological change in staple (subsistence) foods. This also provides further room for specialization at the farm level, and, thereby, permits further gains from commercialization and market integration of smallholders to be captured. Improved technology thus helps subsistence farmers to commercialize in low-risk ways. Development of financial and insurance markets would be complementary and could count on payoffs in terms of gains from commercialization.

The positive effects of commercialization for household food security are greatest when incremental income and employment from com-

mercialization are most concentrated among the malnourished poor. Generally, the smallest farm households in the study settings participated less than proportionally in their respective commercialization schemes, but when they did participate, they tended to be the more radical adopters of the new commercial crops. Efforts to integrate the smallest farms into the schemes can be enhanced through legal arrangements, as shown in The Gambia, where opening up of access had favorable effects on food security at the household level (chapter 22).

Research and extension policies as well as supplies of inputs such as seeds and fertilizer for subsistence crops are critical for a viable commercialization strategy that meets smallholders' demands. Extension services in commercialization schemes with new crops or livestock (for example, dairy in India) have to assist farmers to avoid management mistakes. Crop management failures in the more input-intensive cash crops may pose a risk of greatly increased losses. Export vegetable production in Guatemala, which has input costs per hectare that are four times higher than those of traditional vegetables and twelve times higher than those of maize, is a case in point (chapter 12).

Employment On and Off the Farm

The employment effects for the poor that result from commercialization are very crop specific and are a function of the local labor market and the technologies introduced. Choice of crop and technology, therefore, has a major influence on the actual outcome of the employment effects. Program and policy design in this field can go a long way to maximize the income benefits for the poor through agricultural development. This applies not only to creation of on-field employment, as exemplified by the substantial employment increases in vegetable production in Guatemala (chapter 12) and in potato production in Rwanda (chapter 18), but also to employment in processing and trading that results from commercialization (chapters 9, 11, and 14).

Commercialization of agriculture entails a substantial expansion in the demand for hired labor in virtually all study environments, but particularly so when much processing is involved. To the extent that hired labor households rank among the malnourished poor, this employment effect is expected to be of particular benefit (chapters 8, 11, 12, and 14).

Off-farm nonagricultural employment and income already play a significant role in all study settings, with their share of total household income ranging between 20 percent and 60 percent. Much of this nonagricultural employment is in supply of local goods and services, which, in the study settings characterized by densely populated environments (for

example, Guatemala, the Philippines, Kenya, and Rwanda), may suggest favorable indirect multiplier effects for income and employment resulting from agricultural commercialization. Infrastructure improvement plays an important role in fostering these multiplier effects, especially in high-potential, densely populated areas (chapter 8). The hidden demand for labor-intensive commercialization of agriculture is particularly high where alternative employment opportunities are lacking and where the trade infrastructure for the commodity in question can be put in place at low cost.

In one study setting, the Philippines, the rapid expansion of commercialization—in this case, sugarcane—contributed to the creation of a landless class of households that used to be tenants growing corn on rented land (chapter 13). An important contributing factor to the consolidation of landholdings was a long-run decline in corn productivity on land brought into cultivation in recent decades, which discouraged smallholders, tenants, and landowners from continuing to produce corn, and which resulted in declining incomes of the poor before the introduction of sugarcane. More appropriate policy responses to help the poor would have been to encourage smallholder sugar production (for example, by awarding tenants sugar contracts with the mill), and to raise smallholder corn productivity through technology extension programs.

Income and Consumption Improvement

Some of the case study settings had been selected because there were suspicions or preliminary hypotheses suggesting adverse effects of schemes on income and nutrition. This was especially so for the cases of sugarcane (Kenya, the Philippines), export vegetables (Guatemala), dairy development (India), and tobacco (Malawi).

While income effects of commercialization programs and projects were positive in general in most of the study settings, they were not necessarily sustained for all households and for all components of the commercialization process. For example, the income streams from cardamom production in Papua New Guinea were not sustained (chapter 14) and tree crop promotion in Sierra Leone was met by deteriorating terms of trade (chapter 21).

Although substantial, the net income gains, in general, were much less than the gross income gains from the commercialized crops because of large substitution effects within agricultural production and between agriculture and off-farm employment. The latter was particularly the case in Guatemala; off-farm income earning was reduced when labor-intensive export vegetable production drew family labor and hired labor back into agriculture (chapter 12). In The Gambia, double-cropped

irrigated rice production gained, to a large extent, at the cost of upland crops such as groundnuts and millets (chapter 22).

Some households lost income, at least in the short run, due to the commercialization schemes. This group is rather small and heterogeneous across the study settings. For instance, in Rwanda, farmers who were relocated because of an extended industrial tea cultivation program lost out, and, in Kenya, farm households who lost their land to the factory because of the sugar scheme were found to be worse off in terms of food consumption but not in terms of nutritional status (chapters 22 and 16). Also, the introduction of tree crops, which yield revenues only after long time periods, may pose difficulties in poor environments, as in Sierra Leone (chapter 21). Careful ex ante assessment of possible creation of absolute losers is required. General employment expansion cannot be relied upon to reach out to these groups in the short run.

Judging the distribution of benefits only from the production and labor sides may be misleading, as becomes clear when spending patterns of income in the study settings are reviewed.

The critical issues relating commercialization of agriculture and household-level food security and nutrition are not just whether incremental income is earned by the poor and whether such incremental income is sustainable, but also how such incremental income is spent by the poor. A much debated issue is whether incremental cash income controlled by male heads of households is disproportionately spent on nonfoods and on items that do not improve the welfare of the households in general, and of women and children in particular. In all study settings, however, it is observed that with rising income from commercial crops, absolute spending for food consumption increases (chapter 4). In some settings, the substitution between food items from own production and from purchases is quite complex. Focusing on individual items rather than on aggregate nutrients and diet diversity is particularly misleading in this case—as shown, for example, in the Indian dairy case study (chapter 15).

In some study settings, adverse effects of increased commercialization for household spending on food were found at the margin. It should be stressed that these effects at the margin are not the net effects of increased commercialization. In Rwanda, increased shares of cash income (which was controlled by men) led to a less than expected increase in household calorie consumption; in other words, holding income constant, increased cash income compared to subsistence food income led to a smaller increase in calorie consumption in that setting (chapter 18). In Guatemala, the income elasticity of calorie consumption among export vegetable producers was less than that among other farm households in the same income range (chapter 12). In both settings, however, the

overall income increase due to commercialization was much larger than the deviation effects of commercialization for spending on food at the margin. Thus, the income effects more than compensated for the marginal deviation effects. For cases of "commercialization without growth" such as in the Sierra Leone tree crops case (chapter 21), this, however, was not the case.

Women and Commercialization

Income and employment benefits of commercialization are not spread equally within households. Generally, women's work in agriculture is reduced not only relatively but also absolutely with rising income, which correlates with increased farm size in most of the study locations (chapters 13, 14, 20, and 21). From this angle, there is little support for the hypothesis that commercialization of agriculture leads to increased work loads for women, with potential adverse effects on child care and nutrition.

Sociocultural situations determine quite different effects of commercialization on women's work in agriculture. In Guatemala, for instance, the dramatic increase in labor demand associated with export vegetable production led to an absolute increase in labor input by both men and women (chapter 12). However, with rising farm size, women's labor was relatively reduced, while the shares of hired labor and child labor increased. This was not, however, the case for men's family labor. In The Gambia, on the other hand, the increased labor demand from double-cropped irrigated rice was, to a large extent, fulfilled by a shift of male labor from upland crops into rice, but, in the final assessment, it turns out that the overall work load of men remained more or less constant, while women's labor input increased somewhat (chapter 22).

A common feature in most study settings was that women's work in commercialized crops and women's direct control over income from these crops was much less than that of men, and, frequently, even disproportional to the labor input into the crops. In none of the schemes studied did women play a significant role as decision makers and operators of the more commercialized crop production lines. Policy and program design has thus far shown little explicit concern for this despite potentially far-reaching welfare implications (chapter 5). Women's constraints and potentials in the commercialization of agriculture need to be explicitly taken into account at the planning stage of programs. In participatory program design, special attention is to be given to legal security (where women's land rights are affected), credit schemes, and extension systems for women farmers and for women in the processing activities that are often so important. The general problem of women's bad health

status found in many of the case study settings requires due attention to overcome this fundamental constraint to productive participation in commercialization programs.

Children's Nutrition and Commercialization

The effects of commercialization on children's welfare are mediated, in part, through the income-consumption link, which is found to have favorable effects on children's nutritional status. Potential linkages between income, children's education, and demand for children's labor that may result from new labor-intensive commercialized crops may also be relevant. At the aggregate level, it was found that in the poorest households (at a per capita income level of US$100 per year), a 10 percent increase in income led to an improvement in children's nutritional status (weight-for-age) 1.1 percent in Guatemala and the Philippines, 1.9 percent in The Gambia, and 2.5 percent in Rwanda. Income was not significant only in the Kenyan example, which had a particularly bad health situation (chapter 3). The observed deviations in expenditures at the margin from food to nonfood in some of the study areas did not translate into measurable adverse effects on nutrition (chapter 5), with the exception of Sierra Leone (chapter 21).

In general, no strong relationships were found between income and children's health in the period of the study. Poor household and community health and sanitation environments overshadow potential positive effects of income for health improvement. Community health services have to move in tandem with the agricultural development process, and increased income and wealth of communities fostered by agricultural commercialization may provide the resources required at the community level to sustain local health services. Certainly, the effective demand for health care, both curative and preventive, can increase when higher incomes are combined with better knowledge of how to eradicate the sources of disease. Better quality water and more of it at community and household levels is one such factor, and it was found in The Gambia study setting that it can contribute substantially to children's nutritional improvement. Local initiatives for community development can be effectively stimulated when the resource base of the communities expands, as occurred in the Guatemalan setting with the strengthening of the local health services (chapter 12).

The net nutritional effect (in terms of anthropometric indicators) of incremental income is modest, except in very poor households under acute food consumption constraints (for example, Rwanda), since the increased income does not decrease morbidity. Increased income and increased food availability contribute to solving the hunger problem but

not the problem of preschool children's malnutrition, which results from a complex interaction of lack of food and morbidity (chapter 5).

Concluding Remarks

Public policy has to protect farms' choices to facilitate access to commercialization options at low risks. Policy responsibility arises where commercialization generates new food security risks with which small farmers are not able to cope. Sometimes, however, the problem is not absence of "good" policies, but presence of "bad" ones, as discussed above. Any development from a state of low public action and policy intensity—typically found in the situation of widespread subsistence farming—toward commercialization with active program promotion induces risks for policy failures. Prevention of these through appropriate institutional arrangements (for safety of contractual arrangements, assurance of competition, and so forth) must be called for. To call, alternatively, for prevention of commercialization—as is sometimes done—is a misleading conclusion and, as shown in the great majority of in-depth studies, would bar the poor from access to a basic force of rural modernization and employment growth.

There are two areas of policy that require particular attention in order to both foster the agricultural commercialization process with its developmental effects and reduce the risks of commercialization for food security and nutrition. These two areas are financial systems and social security systems, both of which should be accessible by the poor. Improved understanding of existing (including indigenous) systems is a precondition to enhance both systems from the bottom up rather than from the top down. Improved social security and related insurance systems reduce the pressure on households to self-insure through subsistence, and permit therefore an opening up toward commercialization options. The institutional options for social security are manifold and can build on a range of local and international experience (Ahmad et al. 1991).

Financial systems development can go a long way toward risk reduction too. If the poor are effectively included, again the pressure to rely on subsistence is reduced (Zeller et al. 1993). In order to maximize the development potentials of increased income, policies and programs parallel to the commercialization of agriculture have to accommodate the increased ability of households to save and build productive asset bases in order to avoid savings in the form of nonproductive assets. A rapid development of rural financial markets in the commercialization process is, therefore, also important from a growth perspective. It is particularly called for in environments where commercialization of agriculture leads

to large lumpy payments of cash a few times a year. Larger development schemes for commercialization can provide the critical mass required for efficient rural banking with low overhead costs. Such banking facilities are to be expressly open to all individuals and not just to male heads of households that are enrolled in the commercialization schemes. Through access to rural financial institutions, the benefits of commercialization can be spread much more widely across the community and be less limited to the actual direct participants in commercialization schemes.

In summary, there are five policy and program design issues that are important for maximizing the potential benefits from agricultural commercialization and for minimizing damage:

- promotion of technological change in subsistence food crops along with commercial crop production for household food security in areas with risky food markets;
- improvement of infrastructure, especially in remote areas, when a change in production towards nonfoods may lead to the switch to a net food import balance and thereby drastic price changes;
- openness for effective integration of women farmers and of the smallest farms' households into schemes for commercialization and attention to land tenure and resulting land allocation problems when net returns to land increase substantially;
- development of effective rural financial systems to generate savings and make credit available not only to scheme participants but also to the community as a whole;
- development and promotion of community health and sanitation services in order to maximize the health and nutrition returns of increased income.