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DISINTEGRATING AGRICULTURAL DEVELOPMENT†

The importance of an integrated approach has become a matter of commonplace wisdom in agricultural development circles.¹ The experience of the World Bank with its Integrated Agricultural Development Project in Kenya, however, suggests that although integration obviously is important at the level of policy, it may well be destructive at the administrative level. This paradox is the subject of this essay.

If the productivity of Kenya's agriculture is to be increased, its farmers must be led to employ newer methods that require the timely purchase of new productive inputs. For them to do so requires a strict set of interdependencies: The supply system must be able to deliver the required inputs before rain brings the start of the planting season; credit agencies must be able to extend loans to farmers in time to pay for the new inputs; an extension service must have taught farmers how to use the inputs; markets for the increased output must be available; and roads must connect farms and markets.

In developing countries in general and in Africa in particular, developers have frequently encountered situations in which several of the services needed for agricultural change were weak or absent and integrated approaches were adopted to fill the gap. The first generation of integration was the crop development authorities, of which the Kenya Tea Development Authority (KTDA) is one of the more famous. These authorities coordinated by providing all services for one specific crop themselves. In the case of the KTDA, inputs, credit, extension, markets, and roads are all provided for smallholder tea producers (Lamb and Muller, 1982).

The second generation of integration was the regional development project.

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¹ See Mosher (1966, pp. 63-180) and Rice (1974).

Famous examples were the Lilongwe Land Development Program in Malawi and the Chilalo Agricultural Development Unit in Ethiopia. These projects differed from the crop development authorities by concentrating on a region, by providing assistance for several crops, and sometimes by their concern for domestic food production. Like the crop authorities, they oversaw the provision of all crop services. Although they generally differed from the crop authorities in not having formal ownership of all the relevant service organizations, the regional projects tended to so swamp the area with foreign assistance as to be able to purchase the cooperation of the nominally independent bodies. In the early seventies Uma Lele brought together the African experiences with both approaches and implicitly endorsed the virtues of integration for the World Bank (Lele, 1975).

KENYA'S INTEGRATED AGRICULTURAL DEVELOPMENT PROJECT

Given such a "state of the art," it was a foregone conclusion that the World Bank's involvement in Kenyan agriculture in the late 1970s should be based on the integration concept. In fact, the Integrated Agricultural Development Project (IADP), which began in Kenya in 1976, benefited from the guidance of some of the very best people working on the subject. The idea was to have a project of national scope, with extension provided by the Ministry of Agriculture and inputs, credit, and primary markets organized through the cooperative movement. The line of credit for the project actually originated in the Sugar and Cereal Finance Corporation, and the ultimate markets for many of the crops were controlled by government parastatal bodies. Nonetheless, activity focused on the co-ops, with the Ministry of Agriculture (which has supervisory authority over the parastatals involved) providing administrative leadership. As the Director of Agriculture was the former Director of the Department of Cooperatives, the prospects for integrated activity seemed quite bright.

Since the IADP was concerned with a multiplicity of crops, including food grains, and as it lacked formal control over the several entities involved, it was closest in concept to the regional integrated development projects. It differed from its African predecessors in this genre, however, in being a national program. It came closest to the Indian IADPs, which had also had a broad spectrum and had covered extensive parts of the country at once (Brown, 1971).

Despite the wisdom that went into the design of Kenya's IADP and despite the fortuitous background of its administrative leadership, it failed. Unfortunately, failure in itself is not remarkable in the field of development. What is noteworthy is that in the aftermath the Bank has begun to design separate projects for the several aspects of the original IADP—in other words to take a *disintegrated* approach to Kenyan agriculture. The reasons for this reversal can be found in the way the IADP worked.

The chain of activities in the IADP began with the extension service's recruiting farmers who were interested in the particular package of technical changes that was being recommended for the area. Technical training for these

farmers was provided by both extension agents and the residential Farmers Training Centres of the Ministry of Agriculture. Meanwhile the farmers' applications for credit to finance the package were forwarded through their primary cooperative societies. These applications then had to be approved by the respective district cooperative unions and the Department of Cooperatives; the loan of the credit money to the district unions needed to be authorized by the Cooperative Bank of Kenya (CBK); and the money had to be released to the CBK by the Sugar and Cereals Finance Corporation, usually with a government guarantee for those co-ops whose credit worthiness the CBK doubted. When the loans were finally approved, they were paid out through the cooperative societies, partly in cash and partly in vouchers for fertilizer and seeds. The inputs generally then were purchased through the co-op, which should have already laid in the needed supplies. After harvest, the crops were sold through the same cooperative, which acted as a buying center for the marketing boards, and the credit payments were deducted from the farmer's proceeds.

Every part of this system supported and depended on the other parts. It was thoroughly integrated, and therein lay the seeds of its undoing. For if any one part of the system failed, the entire structure would be hurt.

As could be expected from the procedural steps outlined above, the first place weaknesses showed was in the timely delivery of credit. Initially the problem was only that the chain of approvals was too lengthy and the credit arrived late for the start of the planting season. If farmers waited for the loans to do their planting, as many did, the whole purpose of the IADP was undone. As it happens, early planting does more for maize yields than fertilizer does, and late fertilizer application therefore does not provide sufficient returns to cover costs. The farmer is then in the position of having to repay a loan with insufficient increased production to cover it, and consequently he defaults. The problem of inadequate yields was made worse in many IADP areas by poor rains. As both sources of nonpayment problems would affect the whole cooperative society, the Cooperative Bank of Kenya would see it as a poor credit risk the next year and refuse to approve its loans until the government guaranteed them. This would cause further delays, producing a vicious circle that assured that the co-op's credit record would be still worse the next year. By the time the Bank put its foot down on IADP, the credit repayment record was only 30 percent.

The rational response of farmers to this situation should be to take a very short-term loan from a relative for the needed seeds and fertilizer, plant the crop, and then repay the informal loan with the proceeds from the formal co-op loan when it arrives. This response was effectively precluded by the credit procedures. The system's designers were concerned that farmers would divert agricultural credit to other purposes. Hence farmers were provided with vouchers, not cash, for the purchase of their inputs. If a farmer had already bought seeds and fertilizer, the voucher was useless to him. He couldn't use it to satisfy credit obligations for supplies already obtained.

The sensible response to this situation should be to ignore the credit system altogether and obtain one's inputs without it. Once again, the system made

this adaptive response more difficult. Farmers were encouraged to use their input vouchers with their cooperatives, but they were permitted to submit them through private stockists instead, if they wished. The reimbursement process for the trader, however, was a long and difficult one. Furthermore, the natural edge the voucher gave to the co-op cut severely into the private stockists' market. These problems were compounded by poor profit margins on fertilizer for rural traders, which were set at a low level by the government to partly compensate farmers for the low official price on maize. The low margins made it unattractive to traders to pay the transportation costs involved in moving fertilizer to rural centers. As a result of these factors, many traders stopped stocking some inputs, especially fertilizer. The farmer thus was deprived of an alternative channel of supply, one that frequently was closer to his farm than was the co-op.

Another way in which the credit system worked in a dysfunctional, integrated manner concerns the method of assuring repayment. The standard way of guaranteeing recovery of an agricultural loan in Kenya has been the use of an "anchor" crop. Such a crop is one for which there is a state-controlled monopoly through which the producer has to sell, thereby making it "simple" to deduct for the loan at the time of sale. The system actually has not worked very well outside the major coffee areas. Farmers have sold to illegal traders, marketed under the names of friends and relatives, and bribed purchasing agents, all with the result of evading repayment on their loans. In fact, the anchor crop system probably works in the coffee areas only because these co-op societies informally extend loans for school fees (Haugerud, 1981), making them a valued source of credit for an urgent, recurring need—a source to which farmers are anxious to protect their access. The belief that monopolies offer the solution to poor credit repayment has persisted, however, and the problems of the IADP created pressures to strengthen the existing monopolies and to create new ones. Fortunately these pressures were resisted, for many of the existing monopoly marketing boards are highly inefficient. Unfortunately, the pressures have made it more difficult to introduce competition into the domain of the existing monopolies. Inefficient marketing almost certainly has a greater impact on agricultural production in Kenya than does the availability of credit, so the fact that the IADP made reform in the former area more difficult was a serious failing (Leonard, 1981).

Meanwhile, the agricultural extension system had organized itself around credit delivery under the IADP. When IADP failed to function properly, extension was left ineffective and helpless, despite the fact that its administration improved greatly in this period. Thus we see that the very integration of the IADP, which was supposed to be an advantage, produced ever-widening circles of problems when the project began to malfunction.

Why should Kenya's experience with integration have been so different from the successful experiences that preceded it? The answer is that the IADP was neither a comprehensive crop development authority nor a concentrated regional development project. It therefore had neither the former's ownership

of all the needed services nor the latter's ability to buy the allegiance of all the relevant local organizations. In effect, both of these strategies achieve integration by bringing everything under the control of a single organization, one by virtue of its formal structure and the other by dint of its resources. Neither strategy is possible for a multiple-crop program of a national scope, where the existence of several independent service-delivery organizations is inevitable. The amount of money an integrated project has to offer is not as overwhelming to the headquarters of these organizations as it appears to their local branches. At the same time, the project's national scope is far more threatening to the policy-making authority of national agencies than requests for regional exceptions would be (Cohen, 1979, p. 51).²

ALTERNATIVES TO ADMINISTRATIVE INTEGRATION

Despite the failure of the IADP in Kenya, the basic argument that agricultural development depends on the simultaneous delivery of multiple services is sound. Thus there is every reason for integrating the attention given to these services at the policy level. Nonetheless this need not, and indeed should not, imply that the services be integrated administratively.

Martin Landau has argued that, in circumstances in which reliability is the primary criterion of performance, redundancy and overlap are positive organizational attributes (Landau, 1969). The point is that if we are to be absolutely sure that something will be done, we want more than one unit to be doing it. Then, although we are dependent on a function's being performed, we are not dependent on any one unit for doing it. Where organizations overlap one another in their work, creating redundancy in the system, we also have backups or reserves against failure. Without such redundancy, faltering performance in any one unit of an interdependent system automatically spells failure for the system as a whole. With redundancy, the effects of a unit's functioning poorly are contained and compensated. In most situations, and especially in societies such as Kenya's in which the probability is high that at least one of the several

² Nonetheless, India apparently operated precisely such a national IADP structure with success. India, however, has rather high standards of administration. Although its bureaucracies are sometimes criticized for their inflexibility or lack of responsiveness to pressures from below, they seem to have solved the problems of delivering services reliably and on time (Heginbotham, 1975). Thus integration does not pose the same danger there that it does for African administrative systems, which still have difficulties in this area. Even so, subsequent efforts at agricultural improvement in India have abandoned the integrated approach and have concentrated on extension alone (Benor and Harrison, 1977). The conclusion is that tight interdependencies among agencies are an inconvenience in well-functioning administrative systems and positively dangerous in systems with reliability problems (Siffin, 1979). For more on decisions about program structure under conditions of administrative weakness, see Leonard and Marshall (1982, pp. 1-39, 193-226).

organizations that are critical to agriculture will fail, redundancy is a necessary bit of insurance.

A similar argument can be made about coordination. As long as it is provided administratively, either through voluntary cooperation or hierarchical supervision, there is the danger that it will be lost in interagency quarrels. Poor coordination between organizations needn't imply perverse behavior at all. In fact, lack of coordination usually arises out of legitimate differences between agencies with specialized policy priorities. For example, the Cooperative Bank of Kenya first refused credit to IADP cooperatives because it had a statutory mandate to protect its own solvency and because it was concerned for the implications of debt failure for the survival of many of the co-ops. The Ministry of Agriculture, and ultimately the government of Kenya, were more concerned about agricultural development in these regions and therefore chose to override the Bank decision by guaranteeing the debts. Both positions were legitimate, but over the first five years of the IADP, quarreling over them always led to the late delivery of credit.

The alternative to administrative coordination is to have the function performed by the market. Then every consumer—in this case the farmer—coordinates services through his own purchasing decisions and enforces those priorities on the service-providing agencies through the mechanisms of demand, price, and revenues. One of the great, unappreciated virtues of markets is that they are an administrative mechanism that requires no administrators (Stinchcombe, 1967). Thus the alternative to an integrated set of service organizations that is tightly linked administratively is a number of overlapping and competing agencies from which farmers themselves pick and choose.

This alternative has radically different implications from the traditional, colonially inspired approach. First, it means a separation of credit from input delivery and perhaps even from agriculture. Providing farmers with input vouchers rather than cash was derived from a fear that the credit would be diverted to nonagricultural purposes and that administrative controls were needed to prevent that. Originally, this fear was grounded in a conviction that "peasants" (particularly African ones) were not economically rational and that their development required the paternalistic, guiding hand of the colonial state. Our understanding of the economic behavior of these "peasants" is now much better. We know that their rationality is similar to that of other economic actors and that if they are diverting funds to other investment opportunities it probably is because the rates of return are better there (Bates, 1976). All too often such diversion is a symptom of irrationality, not of peasants but of state policies that set prices on agricultural commodities at levels so extractive as to be counterproductive (Bates, 1981; World Bank, 1981). It is administratively simpler to deal with the fungibility of agricultural loans by setting prices much closer to their market value; it is economically more efficient as well.

It is plausible that agriculture would be best served by general rural credit institutions rather than by credit tied to crop production. First, small farmers have significant credit needs that they regard as even more important than

agricultural ones (Chambers, 1983, pp. 117-31). Some of these are for periodic bulky payments, especially school fees; others are for small investments in petty commerce and handicrafts that may have even higher profit margins than farming or may contribute significantly to income by using off-season labor; still others are prompted by ill health or socially essential ceremonies. Second, even though most of a cooperative's agricultural loan is provided in inputs rather than cash, at least some of the money is fungible—it can be shifted informally away from the intended crops to other credit needs. Since the loans are tied to agriculture, however, the system is geared to collection at the point of sale of the product to the co-op. If fungibility prevents the increase in marketed crop production, the owed money will not be collected and the loan will go into default. Fungibility is common in rural financial markets, and those who have studied their operation carefully now recommend against trying to stop it (Adams, 1977). Third, farmers are willing to destroy their agricultural credit rating but appear anxious to protect their access to general sources of credit. Smallholders in Kenya regard purchased crop inputs as optional, but they see school fees as necessities. Thus they seem to be willing to misappropriate a co-op loan to other purposes, avoid repayment, and remove themselves from the possibility of further agricultural borrowing, but they are much more careful with general sources of credit.

The evidence for small farmers' being careful with general credit sources comes from the coffee cooperative societies around Mount Kenya. Agricultural loans made through these co-ops show very high rates of repayment (90 percent or higher). This distinctive record is usually attributed to the fact that the cooperatives have a monopoly on the marketing of coffee and therefore can easily attach the proceeds from the sale. This hypothesis is not convincing.

The existence of a monopoly doesn't prevent farmers from marketing their crops under the name of another farmer or from transporting their produce to a different co-op for sale. Both of these practices have been reported for cotton, even though cotton is harder to shift than coffee, having a lower ratio of value to weight and volume. Coffee is easily smuggled when the incentives are right, as was demonstrated a few years ago by its being brought out of Uganda into Kenya over Mount Elgon by foot and donkey. Something more than the nature of coffee as a crop is needed to explain the good loan performance of the coffee co-ops.

An alternative hypothesis comes from the work of Angelique Haugerud (1981), who indicates that the Mount Kenya area coffee co-ops advance money for school fees to members against the second, delayed payments for their coffee. This informal practice effectively constitutes a loan for a nonagricultural purpose and is a highly valued feature of the co-ops. It seems likely that small farmers are maintaining good credit ratings with their coffee co-ops to protect this source of loans for school fees.

Thus it is plausible that rural dwellers make greater efforts to maintain a good credit record with a belief that he or she may have to borrow from this source again. Rural credit has this character in Kenya, but agricultural credit does not.

Another implication of the disintegrated approach advanced here is that competitive rather than monopolistic channels should be promoted for marketing and input supply. Such a strategy does not mean the avoidance of public agencies for the performance of these functions. Sometimes parastatals or cooperatives must be introduced into a market to break the oligopolistic behavior of the private traders who control it or to provide services in areas in which development is creating new, as yet subeconomic markets. The strategy does mean that where parastatals and cooperatives are created they should never be granted a *de facto* monopoly, and that either private traders should be permitted to coexist with them or competing public agencies should be created. Competition among parastatals and cooperatives is uncommon, but it has several distinct advantages (Peterson, 1982). First, it preserves the exit option for the farmer in dealing with the agency, which is the single most important means of registering dissatisfaction with its service. Second, it makes possible the termination of ineffective agencies, since viable alternatives exist, and this option keeps agencies from having a ransom hold over the state. Third, the existence of competition between agencies creates a source of comparative information for their controllers (be they the state or co-op members), which permits them to judge when the enterprises are well managed.

Finally, a disintegrated approach to rural development allows the existence of more, smaller agencies. Integration encourages the consolidation of public organizations into a few large entities in order to make coordination feasible. Agencies of this scale are difficult to manage internally. A looser, market-mediated approach (even if among public organizations) requires little administrative coordination and therefore permits the small-scale agency that is most efficient managerially in African conditions.

In closing, it is necessary to stress again that this celebration of the advantages of administrative disintegration for rural development is possible only within the context of an integrated understanding of policy. Approaches that concentrate exclusively on improvements in one development institution implicitly depend on the performance of the complementary institutions already being adequate (Benor and Harrison, 1977). Thus attention must be given to the simultaneous improvement of these interdependent organizations without linking them administratively (Ruttan, 1974, p. 16).

Disintegrating rural development promises to deal with the reality of administrative constraints on agricultural change in contemporary Africa. What is ironic is that it is based on a broader appreciation of the links between different sectors of the continent's rural economies and thus offers a more integrated understanding and policy perspective.

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