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MEASURING THE EFFECTIVENESS OF AGRICULTURAL MARKETING IN CONTRIBUTING TO ECONOMIC DEVELOPMENT: SOME AFRICAN EXAMPLES*

> *And thus the certainty of being able to exchange all that surplus part of the produce of his own labour, which is over and above his own consumption, for such parts of the produce of other men's labours as he may have occasion for, encourages every man to apply himself to a particular occupation, and to cultivate and bring to perfection whatever talent or genius he may possess for that particular species of business.*
>
> *The Wealth of Nations*,
> Book I, Chapter II

Adam Smith considered the object of political economy "to provide a plentiful revenue for the people" and to furnish the state "with a revenue sufficient for the public services." Book I of *The Wealth of Nations* opens with the statement that "The greatest improvements in the productive powers of labour, and the greater part of the skill, dexterity, and judgement with which it is any where directed or applied, seem to have been the effects of the division of labour" (*30*, p. 3). A principal means through which this specialization can be achieved is economic exchange (Smith regards it as the only way), and most often when we speak of economics it is the network of markets, of buying and selling, that we mean. The greater part of the subject matter of economic analysis would evaporate if exchange were absent, leaving only a giant set of linear programming problems from which the rulers of a state might select the solutions most congenial to them.[1]

It is possible to conceive of a marketing system that is essentially a static

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[1] This is essentially what happens in a nation that is mobilized for total war. It may also be the goal of the technocratic state.

mechanism, in which all the agents are concerned primarily with maintaining customary equilibrium values of volume and price,[2] but typically this is not so. Participants in the market not only transmit throughout the system the effects of changes that may occur in any part of the economy, but they themselves initiate changes. The very nature of exchange requires that buyers and sellers be permitted to seek out new sources of supply, new customers, and new products. The participants themselves, and particularly the merchants (or middlemen), become agents of change, responding quickly to new opportunities and frequently creating them.

The form that a marketing system takes, and its effectiveness in improving the productive power of labor, depend on the rules formulated for its conduct by the participants and by the state, and their goals are apt to differ. But the state can affect the consequences of the acts of participants in the market without attempting to change their basic goals, by regulatory and facilitative interventions that change the signals to which buyers and sellers respond.

AGRICULTURE AND ECONOMIC GROWTH

It is not necessary to argue the critical importance of agriculture in plans for stimulating economic growth in the poorer countries of the world. The very mass of the agricultural sector in terms of output and employment has provoked attention from agricultural economists and general economists alike to strategies for increasing agricultural productivity and for using this increased productivity to further the development of the other sectors. It is also abundantly clear that the long-run correction of low incomes is not to be found in agriculture alone, particularly at a time when the populations of most countries are growing at unprecedented rates.

Projections of present rates of population increase in countries still largely rural do demonstrate how important it is that new technologies not be permitted to lower employment in the rural industries, and that where possible they should be employed to increase productive employment there. Bruce Johnston's projections, which are based on what seem to be reasonable rates of growth of employment in the towns, also underscore the major returns that might flow from efforts to increase these rates (*15*). For in the longer run, the wealth of nations and their citizens can best be enhanced through exploitation of the potentialities that lie in specialized production of the broad range of nonagricultural commodities. Most men have enough food for survival, although many would like more; the craving for all of the other good things of the world appears to be nearly insatiable. It is true that even in the wealthiest nations a fifth or more of consumer expenditures still go for "food," but the commodities purchased may be more the product of the processing, packaging, and distributive trades than they are of agriculture.

The economic history of most nations records the gradual assumption by town dwellers of tasks once performed on farms. In fact, J. S. Davis, in an article on "Agricultural Fundamentalism" published in 1934, said, "One may even venture to state as a law of economic history that *economic progress, broadly viewed, tends to be accompanied by a decline in the relative importance of agriculture*," and he

[2] G. W. Skinner's study of Chinese market towns may describe such a situation (*29*).

found this simply to be "the obverse of the expansion of commerce and industry, the arts and the professions" (*9*, p. 27). Barger and Landsberg, writing in 1942 about the evolution of American agriculture, described one of the ways in which this decline in the relative importance of agriculture comes about (*2*, pp. 8–9):

> If any trend [in the boundaries of agriculture] is discernible it is the gradual transference of agricultural functions to industry—breadmaking from the farm oven to the commercial bakery, buttermaking from the home churn to the dairy plant, slaughtering from the farm to the packinghouse, spinning from the wooden wheel to the textile factory. In this way the functions of agriculture have been whittled down to the growing of raw materials exclusively.

Over the long reaches of history, the transfer of function embraces a much greater range of production activities—almost the total range.

In many parts of the world there was probably a time when all or almost all goods and services of any sort were obtained from the activities of what would now be called the rural population, although the distinction between rural and urban would have had no meaning until the birth of towns.[3] The closest approximation to this situation to be found in recent times was probably in the highlands of New Guinea as they were about 30 years ago. In an earlier period, running into the eighteenth century, the Indian populations of the Eastern and Middle Western United States lived in this way; and in many parts of tropical Africa, isolated, largely self-sufficient societies were the rule until early in the twentieth century.

For such societies the only things obtained from "outside" were commodities that could not be produced locally and that were wanted badly enough to warrant the high cost of transporting them over long distances—things like salt, flint, copper, iron, and cowrie shells. It is not to be assumed, however, that the inhabitants of such societies were limited to the enjoyment only of goods of the kind now thought of as being produced in agriculture. A careful catalog of all the goods produced and services rendered by these country people would include representatives of almost every general category present in the most highly industrialized societies. Material goods included houses and storehouses, clothing and ornament, weapons for defense and hunting, boats, and utensils for transporting, preparing, and serving food and drink; they also most often included minimum furniture, such as stools and beds, curtains, floor coverings, and at least a few objects prized for their artistic, sentimental, or ceremonial value. Food, too, should be included in this list to stress the fact that members of these rural sectors produced not only the raw products of modern agriculture but also undertook the processing and storage necessary to turn "farm crop" into "food" available for human consumption.

The list of material objects supplied by the largely self-contained societies far from exhausts the economic product they generated. Domestic and personal services such as cleaning, baking, laundering, and hairdressing continue to be a part

[3] We pass over the intriguing suggestion of Jane Jacobs that towns antedated and in fact invented agriculture which they then transmitted to "rural" hunters and gatherers (*14*). Towns, she believes, came into being originally to service the trade in certain scarce raw materials such as "obsidian, copper, shells, pigments, or other unusual treasures" (*14*, p. 24).

of the household economy even in the wealthiest countries, but fetching water, gathering fuel, educating, litigating, adjudicating, healing, regulating individual conduct, propitiating the Deity, waging war, and governing we increasingly turn over to public utilities and oil companies, and to teachers, lawyers, judges, doctors, policemen, priests, soldiers, and congressmen. Their earnings are quite properly regarded as a part of the national product (cf. *18*).

The only major service industry that did not figure prominently in these small, household-types of societies was commerce. Distribution of the products of the household, extended family, or clan amongst its members was achieved primarily through considerations of reciprocity and equity as conceived by the group. It would have been hard to arrange matters otherwise when economic activities were so undifferentiated and economic determinants of behavior so hard to isolate (cf. *20*, p. 13).

The most obvious manifestation of the process of transforming a national economy from a traditional to a modern one is the change in the occupational composition of the labor force from one made up principally of generalist producers resident in the countryside to one made up increasingly of specialists resident in the towns. The first response to the world economy, however, is likely to involve only a change in the number of productive activities of a population that is still largely rural. With the opening of access to foreign markets increasing amounts of labor are likely to be employed in producing export crops, while at the same time the amount of rural labor employed in manufactures and services declines as the products of rural crafts are replaced by imported textiles, crockery, tools, and the like.[4] In the beginning, perhaps for a long time, this expansion of export crop production may affect food crop production hardly at all if land resources are adequate. In tropical Africa all evidence suggests that food supplies did not decline in total amount but actually grew as rapidly, sometimes more rapidly, as population (*16*). Structural transformation of the economy can only be said to be in train, however, when manufacturing and service establishments in towns and cities begin to assume part of the responsibility for supplying products that were or still are produced on the farms.

As a collection of relatively isolated, largely self-contained rural communities is transformed into an integrated national economy resting largely on town- and city-based manufacturing and services, it may be expected that the division of labor between town and country will be accompanied by increasing specialization within agriculture proper. Farmers who grow crops primarily for the export market will find less need to grow food crops to maintain their families, and agriculture will be characterized by regions of specialized crop production with accompanying advantages in lowered costs of production and marketing.

Opportunities for specialization do not, of course, end here. It is the very essence of the Green Revolution that the division of labor between farm and nonfarm penetrate into the heart of the farm production process itself. Where once the farmer undertook to provide seed for planting, to maintain soil fertility by

[4] Lists of the commodities sold by European traders on the West Coast of Africa, provided by D'O. Dapper (*8*) in the seventeenth century, provide an indication of the productive activities in which employment must have declined, as do lists of imports of consumer goods in the twentieth century (*24*).

composts, manure, cover crops, and crop rotation, and to control weeds, pests, and diseases as best he could, it is proposed now that he obtain these critical inputs by using improved seeds "designed" by plant breeders and perhaps multiplied by others, and by purchase of fertilizers, herbicides, and pesticides that are the product of the industrial sector. Available, too, and the basis of much controversy among agricultural strategists, are mechanical draft power, more efficient farm tools, and power-driven deep-well pumps.

The extent to which these new inputs are brought into full employment depends in part at least on the ability of the distributive system to supply them when and where they are needed, and at moderate cost. It also depends on the farmer's view of his own economic requirements, and in particular on the extent to which he is willing to trust the welfare of his family to the anonymous working of the market. We may think of the rural household as passing through six stages as the national economy evolves from one governed by family relationships through increasing reliance on barter and other forms of economic exchange to a largely economically determined system in which money has become an all-purpose good:

1. In the least articulated situation each household or community is sufficient unto itself, with only the very fewest articles obtained by occasional contact with other communities. This might be thought of as the Highland New Guinea Stage.

2. Increasing contact with other communities leads to more frequent exchanges for a larger range of commodities, but the products "exported" result more from windfalls than from planned production. This stage shades off imperceptibly into the next stage,

3. When there is a conscious and more or less regular effort to assemble the products of the hunt and of gathering in anticipation of the visit of foreign buyers, sometimes only after the buyers have appeared. We could call this the Elephant Tusk, or the Wild Rubber Stage.

4. A most profound change occurs when some members of the community plant trees or annuals to produce crops primarily for export sale, but without reducing the customary output of food crops. Perhaps this could be broken into two substages on the basis of the time horizon of the planter, the first requiring only the foresight of a few months while an annual crop grows to maturity, the second a planning period of several years while waiting for cocoa, coffee, or oil palms to come into bearing. I am inclined to call this the Gold Coast Stage. At the same time the range of other things made at home sharply declines to give the pattern characteristic of most of Africa in the 1960s when almost everything but food, shelter, and furniture was imported.

5. The fifth stage begins when rural producers find themselves willing to buy a substantial part of their staple food requirements in the market, thus freeing them to concentrate their productive revenues on the most profitable crops. Surveys of Western Nigerian households in 1951/52 and 1963/64 show these Yoruba farmers to be obtaining from 50 to 75 per cent of their staple food calories from purchased supplies (*22*, p. 63), with some farmers, even some areas, specializing in the production of food crops for sale to other farmers who were specialists in export crops, or even other food crops. Let us call this the Yoruba Stage.

It is neither necessary nor sufficient that the restraint of subsistence production be removed to enter the next stage,

6. When farmers free themselves of all postharvest operations, i.e., the first stage of processing, and also employ the products of the town in crop production. The ultimate development in this stage, when the farmer hires every productive input, including land, labor, and working capital, I shall call the Salinas Valley Stage.

In order to realize the advantages such division of labor can offer, a steadily increasing burden is placed on the marketing system, both to achieve the most productive allocation of all resources and to combine the insurance against untoward events that the old subsistence household economy afforded with the risk-spreading possibilities of an integrated national economy.[5] Let us consider now the basic characteristics of such a marketing system, with particular attention to product markets.

THE MARKETING SYSTEM

It is customary to say that the marketing system increases the place, time, and form utility of the commodities that pass through it. Strictly speaking, this is wrong. Place utility is enhanced by transporting a commodity, time utility by storing it, and form utility by processing it. These are purely physical activities and are the appropriate study of technologists and engineers. It is true, of course, that the production of a good is not completed until it is in a form and at a place and time suitable for use, and it is for this reason that productive inputs on the farm may be only a very small part of the inputs needed in a modern society to yield the final product.[6] On the other hand, it is the complex network of economic exchange comprising the marketing system that makes it possible for productive activities to be performed by a variety of economic entities, however widely dispersed over time and space, and integrate them to create and sustain a national economy. Marketing, or exchange, is the economic element in distribution as opposed to the more visible technical element. Within the boundaries set by technology it determines the form of economic production.

The marketing system is an allocating mechanism. It exists to facilitate the rational allocation of resources in production and of products among uses. Study of marketing is therefore a study of the allocative process and derives from the belief, or perhaps the hope, that allocation can be altered to yield a greater product. Numerous studies in recent years, inspired in considerable part by T. W. Schultz's *Transforming Traditional Agriculture* (*28*), have seemed to demonstrate that there is little to be gained by changing the allocation of resources within the farm firm. Some may question the accuracy of their findings, as I do, but that need not disturb us in the present context. The concern of marketing research is allocation

[5] The great risk of famine in the 1970s does not come from the possibility of crop failure but from the danger that marketing and distribution systems capable of rushing food supplies to areas of crop shortage may break down, as they did in Congo (Kinshasa) and Nigeria. As Merrill Bennett has said, "Until the end of the twentieth century there seems no reason why famine of natural origin should be endured in any country. . . . But even in the shorter term, it cannot be said that artificial famine, induced by war or revolution, may not appear again" (*4*, p. 325).

[6] The reduction in effective output caused by inability of the storage and transportation systems in some countries to handle adequately the harvest of the improved cereal varieties is a case in point.

among firms rather than within them; it is only necessary that the average behavior of firms tend to be rational in order for the marketing system to function, although the system will achieve its goals more rapidly and more efficiently the more rational is the behavior of the firm (cf. *19*).

If all allocations were optimum and all economic adjustments had been made—a state of total economic entropy—most features of the marketing system would disappear. In such a world, with nothing changing, man could be ruled by custom and tradition, and the products of the farm, the forest, and the field, as well as the products of industry and the services of specialists could be allocated among the members of society according to unchanging rules of reciprocity. Just so were the shell armlets and necklaces of the Trobrianders exchanged in the Kula ring, but this noneconomic exchange was accompanied by a larger, and presumably much livelier, exchange of foodstuffs and crafts manufactures at rates arrived at after competitive bargaining (cf. *5*, pp. 10–11). And even in the most all-embracing type of household economy, the value of goods and the value of services must change as conditions of production and consumption change.

It is of the essence of a marketing system, however, that its participants react to constantly changing circumstances of demand and supply. Agricultural production is influenced by rain, hail, drought, and cold, by the depletion of resources of soil, water, and vegetation, and by the invention or discovery of new techniques for planting, growing, harvesting, processing, transporting, and storing. These in turn may influence demand, which is also subject to change under the impact of changes in communication, tastes, income, population size and structure, education, and social organization. The market is led in its pursuit of better adjustment to changing parameters by aggressive profit-motivated individuals and firms that seek out new sources of supply, new markets, and new methods of exploiting them. It may also be retarded, of course, by well-established firms with sufficient economic power to enable them to conserve old markets and old methods.

It is quite conceivable that all of the functions customarily entrusted to the market mechanism could be performed by a sufficiently elaborate and well-informed central planning agency. In the present state of knowledge about economic relationships and about the details of economic magnitudes this does not yet seem to be possible. It is probably safe to say that even the most tightly regulated economies still take guidance from value relationships arrived at in open markets or by marketing activities.

MEASURES OF A MARKETING SYSTEM

We could attempt to measure how well a marketing system does its job by comparing it with the requirements of the purely competitive model—that entry to the market be free, or at least non-discriminatory; that the largest firm make a trifling fraction of the market's sales or purchases; that participants act independently and impersonally; that there be complete knowledge of offers to buy and sell; that the commodity traded be fungible; that there be knowledge of total supplies; that time and conditions of sale be arrived at only by the participants in a transaction; and that the participants be economically motivated or their economic resources be limited. The working of the market will also be facilitated by such

devices as standardized measures of quantity and quality, enforcement of contract, flexible terms of purchase (including credit sales, consignment, and forward and futures contracts), divisibility of the commodity and of the currency, acceptance of a stock of merchandise as security for loans, open bidding or auction, and informational and financial clearinghouses. Alternatively, we could examine how and to what degree the behavior of prices departed from that of a perfect market in which all information available anywhere in the system is immediately reflected in market prices.

Both approaches were followed in our recent studies of staple food marketing in five regions of tropical Africa—the hinterlands of Freetown in Sierra Leone; Nairobi in Kenya; and Kano, Ibadan, and Enugu in Nigeria (*22*; *23*; *1*; *26*; *32*; *37*; *11*). Checklists of possible imperfections, derived from the concept of a perfect market, provided an exhaustive basis for inquiry in the field and a partial framework for analysis and prescription. But a long list of imperfections present or absent is an insufficient guide to judging how well or poorly a system is performing its principal tasks, if only because of our ignorance about just how crippling each imperfection is. Something of the same is true about examination of departures of prices from "perfect" behavior, although this approach probably comes closer to measuring the cost of imperfections.

Perhaps it is better to attempt to measure a marketing system against the basic task it is intended to perform and the general physical conditions that must be met if it is to perform it well, without worrying too much at the outset about equilibrium or optimum conditions.

A good marketing system must have sufficient capacity to provide regular markets for the products of farm and factory, regular supplies of foods and a variety of other consumer goods of desired kind and quality in both town and country markets, and timely supplies of the productive inputs needed by farmers and of the raw material inputs needed by processors and other manufacturers. Priorities to be attached to these several functions are related to the stages that the rural sector has reached in the evolutionary process. Essential to the Elephant Tusk Stage is the assurance of a market, which need not be especially regular in its occurrence,[7] where hunters and gatherers can exchange their products for exotic goods. The goods offered by the visiting traders will be mostly exotic luxuries, but will also include some durable producer goods of a more essential character, such as guns and axes, copper and iron.

The Gold Coast Stage marks a much larger step into the market economy. It requires markets that are both assured and regular. The commodities available for exchange in the market must include necessities as well as luxuries if rural producers are to transfer labor from craft to export-crop production. At this stage, however, it is not necessary that rural markets offer much in the way of staple foodstuffs except to provision traders who come from a distance; in general the distribution of foodstuffs continues to be handled in the customary way.

Still more is required of the marketing system if rural producers are to move to the Yoruba Stage where a significant part of staple food supplies is obtained by

[7] Early European explorers in tropical Africa, however, found the irregularity of visits by buyers of ivory and slaves a frequent cause of concern on the part of village chiefs in the remoter parts of the continent.

purchase. Now foodstuffs as well as other consumer goods must be ever available at prices that farmer-consumers can afford. Relatively stable prices are important in the Gold Coast Stage if farmers are not to become disenchanted with production for sale and retreat to an earlier stage. If the Yoruba Stage is to be maintained it is critical that supplies of food be available at least as regularly as from subsistence production; one great advantage of successful achievement of the Yoruba Stage is that food supplies can be more reliable than they were before.

If foodstuffs are to be supplied regularly to rural consumers, it is also essential that somewhere in the system traders and processors can be assured of finding regular offerings of raw products by farmers. This dual condition—that producers can count on finding buyers at a known place, and that merchants can count on finding sellers—was, of course, a prerequisite for the Gold Coast Stage, but there it was a matter of one or two export commodities; in the Yoruba Stage the requirement extends to a much wider range of farm products. As the range of commodities produced on an individual farm or in a particular locality narrows, the range handled by merchants must widen.

The Salinas Valley Stage imposes the heaviest responsibility of all on the marketing system. If town-based industries are to make the investments that will enable them to assume all postharvest operations it is essential that they be able to obtain a regular flow of raw produce;[8] if farmers are to employ chemical fertilizers, improved seeds, and pesticides they must have good reason to believe that these modern inputs will be available in sufficient quantity at the precise time when they are needed. And again it is important that the prices at which inputs of farm and factory are offered vary within narrow enough limits and in a sufficiently predictable way to permit reasonably reliable planning decisions.

These general tasks that the marketing system must perform if the economy is to achieve maximum productivity imply some more specific requirements:

1. Merchants must be able to command the physical means to move commodities from place to place at moderate cost;[9]

2. Because of the seasonality of agricultural production there must be somewhere in the system facilities for holding commodities at modest cost;

3. There must be places where buyers can find sellers, and sellers buyers;

4. Potential buyers and sellers must be able to learn about the magnitude of supplies and probable requirements, both present and future, at various locations in the system;

5. Transport services, storage facilities, marketplaces, and market information all will be unavailing in the absence of traders who are in a position to take advantage of the opportunities for gain that are afforded by differentials in supply and demand over space, time, and form, and among commodities; and finally

6. The costs of marketing, like the costs of hauling, storing, and processing, should be moderate.

Let us examine the African marketing systems that were the subject of our

[8] This requirement is one of the reasons why processor-traders have often developed their own plantations.

[9] I shall not attempt to give precise meaning to the terms "narrow enough limits," "sufficient quantity," "sufficiently predictable," "reasonably reliable," "moderate," and "most," a judgment that must ultimately depend on the views of persons who want to make use of the services.

studies in terms of these six familiar specific requirements of transportation, storage, information, marketplaces, responsiveness, and margins. We shall also consider price stability.

Transportation

The transport of staple foods in all five areas is mainly by motortruck, although the north-south railway in Nigeria hauls appreciable quantities of beans and several other foodstuffs, and the Kenya marketing board moves a great deal of maize by rail. Road transport permits regular movement of produce throughout most of Kenya and Nigeria at what appear to be reasonable costs. In Sierra Leone, however, a skeletal road and rail network and frequent interruptions of road transport by rain and floods make it more difficult to establish regular market connections throughout the country. In each of the regions studied are to be found communities that may be several hours distant by footpath from motorable roads and that can be expected to participate only marginally in the market economy. Other areas relatively poorly served by roads that are especially susceptible to washout in the rainy seasons, like parts of southern Sierra Leone, are at a competitive disadvantage in national markets and may afford farmers less incentive to produce for sale.

The critical importance of maintaining the farm-to-market road system in such countries was amply demonstrated in Ghana in the mid-1960s, when neglect of feeder roads and a lack of tires and spare parts induced by foreign exchange problems created critical shortages of food in the coastal cities.

Kenya has a good road system, but transportation is subject to harassment by police because of a governmental licensing system for transport of foodstuffs, particularly of maize, which it is intended shall only be traded in by licensed buying agents. Sierra Leone presents the peculiarity that the production of rice has received much less attention from government in the traditional commercial rice-growing area of the Scarcies, which has been well served by road and water transport, than it has in other less accessible areas.

Storage

A notable feature of all five areas is the large proportion of marketable produce that is held in the rural area, usually by the farmers who produce it. As a result, traders can only judge the magnitude of stocks by the rate at which they appear on the market, and their knowledge of total supplies may be seriously defective until late in the crop year.

Farmers' reasons for holding stocks of staple foodstuffs are complex. They are most likely to do so when the crop is grown both for own consumption and for sale. Such stocks are then partly insurance against shortfalls of other crops or unusual family demand for consumption. It also appears to be true that many farmers prefer to hold their assets in the form of physical commodities rather than in cash, either for fear of theft,[10] lack of confidence in the purchasing power of currency, or because they have traditionally done so. But a speculative motive is also definitely present, whether storage is thought of as protection against the risk

[10] Danger of theft of all sorts is probably much less in the small areas than in the towns, but it is easier to steal a cache of coins than of grains.

to the farm family of food shortage in the preharvest period or as an attempt to realize on probable increases in market price as the season progresses.[11] To the extent that stocks are held as liquid assets, the decision to sell may be little affected by price. Instead it is the need to pay school fees or taxes, or to have funds for festivals and celebration, that brings the farmer to market. Or it may be that marketing will wait until other tasks are less pressing, or be suspended when the seasonal work load is heavy (cf. *11*, pp. 60–61, 218–22).

As far as we were able to determine the losses in farm storage of most commodities appear to be moderate—typically about 5 to 10 per cent in six months. Yams are a striking exception, with losses of 30 to 50 per cent over a six-month period; this is in considerable part a characteristic of this commodity which loses both carbohydrate and water through respiration when in storage (*22*, p. 271; *6*, p. 182). (It is important to remember that over much of the area included in the African marketing studies two crops a year are common, and staggered planting further reduces the time of necessary storage. Where manioc is grown, year-round harvests are possible.)

The costs and price risks of storage are usually borne by the farmer-producer, although in some instances title may have passed to a wholesaler, and occasionally farmers receive cash advances before harvest. No instances of the use of stocks of commodities as collateral for loans were reported by indigenous traders.

In Kenya, where perhaps a fifth of all marketed supplies of maize and large amounts of other commodities are purchased by the marketing boards, storage is undertaken by these governmental bodies. Similarly in Sierra Leone, a considerable part of the marketed supplies of rice is held by the government's Rice Corporation; until foreigners were forbidden to trade in rice, a few large wholesalers held the principal commercial rice stocks and may have obtained loans against them.

Information

Public price information services were minimal in all five areas. In Kenya, where many prices are set by the boards, no attempt was made to report prices in the gray market. Sierra Leone collected retail prices in some towns for calculation of a cost-of-living index, but the reports were not disseminated. Northern Nigeria collected monthly price statistics from some 50 or 60 markets, but the information was classified "secret." Western and Eastern Nigeria collected similar data, but the reports were circulated only among government officials.

Crop-reporting services are of the most impressionistic sort in all of the areas, and even the general magnitude of production and consumption is known only approximately. The Kenya Maize Board appears able to judge the size of a crop only by the amounts offered to it for sale. Because farmers and traders prefer to sell through private channels in lean years, and tend to use the Board as a buyer of last resort in years of bumper crops, the Board probably consistently overestimates the annual fluctuation in supplies (*22*, p. 279).

In this state of ignorance and obfuscation it may be surprising that the staple

[11] The most clearly speculative activity by food farmers is the practice reported from some parts of western and central Africa of planting fields of manioc that will only be harvested if a good price can be obtained during the rather long period of maturity (*21*, p. 187).

food marketing systems can perform at all. That they do, and in some areas rather well, may be taken as confirmation of the proposition that economically motivated individuals will get the kind of information they need, if they are permitted to do so—even if they are forbidden to do so. Here we must rely primarily on the reports from the Nigeria studies, but indirect evidence suggests that they apply as well to Kenya and Sierra Leone.

Nigerian traders appeared to know very well the current prices, and supplies, in the markets where they customarily traded; their knowledge was severely limited, however, by their trading behavior. But it is necessary at the outset to distinguish between commodities traded over long distances, like beans and rice, and perhaps gari,[12] and commodities that travel shorter distances, like yams and maize. The long distance trade has bulking markets in the producing areas—Kano for beans, Abakaliki perhaps for rice—inhabited by traders who have rather a good knowledge of local supplies. At the other end are distributing markets like Ibadan and Lagos with wholesalers who know the demand situation across the areas they supply. For yams and maize the situation is quite different, and it may also be so for banana-plantains and for manioc and its products. Central markets are served by a number of wholesale-assemblers, each with his own beat. Supplies come from a wide area, with little specialization, and each wholesaler will draw from a particular place. There he knows the conditions of supply very well. He may also know something about prices in other nearby bulking points, although he is unlikely to buy in them. But in the markets more distant from his customary supply point he has little interest. As a consequence of this point-to-point organization of supply, adjustments to surplus or shortage at one point are transmitted only slowly through the system. We shall examine the causes of this tunnel vision of assemblers when we consider the question of responsiveness. Let us first, however, examine the matter of places of sale.

Marketplaces

Recognized marketplaces and periodic market meetings have a long history in tropical Africa wherever populations were dense enough to support them. Even in the more sparsely populated parts of the continent it was accepted practice to organize gatherings for the purpose of economic exchange on an ad hoc basis. In most places the prominence of retail activities in the marketplace tends to distract attention from the wholesale trade which may be carried on in the same place or in shops surrounding the market, may have a place of its own, or in the supplying areas may simply be a place alongside the road where buyers and sellers customarily meet. It is in the wholesale markets, both in the supplying and in the receiving areas, that our studies suggest there may be some difficulties. Problems in the cities appear to be largely physical and need not be rehearsed here; some of the things reported in the supply areas, however, bear on the relationship between marketing organization and the specialization that is the hallmark of economic growth. They deserve a moment's attention.

There are first the problems of the isolated areas. In parts of Kenya, Alvis and Temu speak of the problem of potato growers who live some distance from the

[12] Manioc meal, *farinha da mandioca* in Brazil.

nearest market and must dispose of their crop to the one or two potato buyers who pass through each season (*1*, p. 300). Whitney reports rice-growing areas in the Enugu hinterland where paddy rice "has to be head loaded for a number of miles to reach even a dirt-track" (*37*, pp. 73–74). Mutti and Atere-Roberts say of the poorly organized cassava and peanut trade in Sierra Leone that "Development of a more specialized market organization for these staple products is not likely to take place until greater quantities are offered for sale at particular locations" (*26*, p. 287).

Development of specialized supply areas results from a continuing interaction between growers and merchants. The course that their interaction takes may be much more important than geography and climate in determining regional specialization, and may be no more than historical accident. For the growers it is essential that there be a place not too far off where they can be sure of finding buyers; for buyers a place where they can be sure of finding supplies. As the numbers who patronize such a marketplace increase, it is to be expected that auxiliary services will be provided: sheds for overnight storage; parking and loading areas for trucks; accommodations for buyers and sellers; a group of resident porters; and eventually moneylenders and banks, telephone and telegraph, suppliers of packaging materials, weighers and measurers, and possibly processing plants. It may also be expected that at some stage in the evolution of the rural bulking market it will become a center for the distribution of such inputs as seeds, fertilizers, pesticides, herbicides, and farm tools to farmers who sell their products there. Many of these externalities, or external economies of scale, can only operate economically where the volume of trade is sufficiently large. As they come into being they further enhance the attractiveness of the market for both buyers and sellers and thereby the tendency toward specialization. At the same time, however, they make it easier to experiment with other crops that benefit in their marketing from the services already available.[13] The importance for economic growth of such markets, and the wide range of services they perform, have received surprisingly little attention from development planners. For the lack of them many farm development schemes have floundered and failed.

Responsiveness

We take as proven that the societies of tropical Africa contain a sufficient number of economically motivated men and women to make economic analysis appropriate. An early review of the evidence has, without exception, been supported by subsequent studies of supply and demand response in particular localities (*19*). It seems certain that the same is true of the other continents. In questions of response to economic opportunity, however, the will to respond is not enough; it is necessary, too, that those who would respond be able to.

In some African countries the ability of private merchants to seize economic opportunities is seriously restricted by the state, either inadvertently or intentionally. In Kenya, an extreme example of state intervention with 27 agricultural marketing boards in 1960, it is illegal to move maize across district boundaries in quan-

[13] The development of the Salinas Valley lettuce and vegetable market provides a classic example of the process.

tities of more than 60 pounds, and farmers can sell maize or beans legally only to consumers and licensed buying agents of the boards (*1*, pp. 216–17). In many African countries marketing boards exercise similar control over the marketing of export crops. But even in countries like Nigeria that are almost free from government intervention in the domestic food trade, response to economic opportunity is inhibited by a variety of circumstances. In most instances, however, these have not been as crippling as they might at first appear because of the ingenuity of traders in circumventing them, as the free traders of Kenya have circumvented the regulations of the boards.

Some features of marketing systems such as these that are frequently regarded as serious restraints on trader response appear not to be, in particular the lack of market news services, standard weights and measures, recognized quality standards, and legal enforcement of contracts. Traders who see advantage in learning about supplies and prices in other markets find little difficulty in getting such information through private sources, and merchants who trade in markets with differing measures of volume appear to be able to convert from one to another easily.[14] The same is true of quality standards. Contracts are almost always verbal, but the need to maintain trading relationships and the social sanctions that may be imposed by the community appear to make breach of contract no more frequent than in societies like our own. In the longer term, improvements in these facilitating services will, of course, become increasingly important as the volume and complexity of long distance trading increases.

Much more restrictive is the point-to-point trading pattern referred to earlier, and the very slight development of major bulking and redistributive centers (cf. *23*, pp. 116–21). In Nigeria this seems to have resulted from earlier political structures, in Kenya from governmental regulation of transporters. It may have its root cause, however, in the nature of African societies and in the fragmented character of the economies of African states, a fragmentation that it helps to perpetuate.

Extra-economic considerations probably do not much influence the conditions of sale at retail (cf. *10*). It is likely to be quite otherwise in wholesale transactions when credit may be extended by either seller or buyer, or the goods transferred on consignment. Then mutual trust becomes of the first importance, a trust that is far more likely if both parties to the transaction share the same ethical code and are subject to the same sanctions. In countries as fragmented socially and culturally as the African ones, this situation is most likely to obtain between members of the same community or lineage. Simon Ottenberg, in a study of credit associations among the Afikpo Ibo (*27*), describes how cash transactions are carried on unreservedly between members of different groups, but there is almost complete avoidance of credit transactions except between members of the same community, age group, or village union.

Members of the large Hausa population, chiefly resident in Northern Nigeria and Niger but also to be found elsewhere in the savannas of West Africa, rely on

[14] It may be that variability in units of measurement brings uneconomic returns to those who can judge quantities best, and undue prominence to skillful measurers, but it seems not to inhibit response to price spreads. There is some evidence that it makes price discovery less accurate than it would otherwise be, and that it leads to unintended variations in retatil price (cf. *22*, pp. 200–205, 78).

a system of brokers or commission agents (*dillali*) to facilitate trade in their own markets and elsewhere in West Africa (*11*, pp. 118–52; *13*).[15] The broker receives the visitor to a market, and assists him in finding customers. Polly Hill describes a rather superior type of broker, the *mai gida* (or landlord), who provides food and lodging for his clients during their stay in town and "guarantees the creditworthiness of certain buyers, in the last resort meeting their debts (at least in part) himself" (*13*, p. 365). An interestingly similar situation was described by Northcote Thomas in an article published in 1908: "In North-east Africa and to a less extent in the centre and west each foreigner is obliged to have a paid patron through whom he does business" (*33*, pp. 103–4). Lars Sundström reports the presence of brokers throughout most of West Africa and down into the Congo. He says, "The chief duty of a broker was to put his technical knowledge and linguistic skills at the service of inexpert prospective traders." He also refers to a temporary host who acted as broker and "informed his guest about current prices and the financial standing of prospective customers" (*31*, p. 58).

The use of brokers seems to be associated primarily with the Hausa world. Traders who live near the coast achieve somewhat the same results, however, by restricting their custom to a few suppliers[16] with whom they have developed a relationship of mutual trust and respect. Under such circumstances, the opportunity for additional profit must be great to induce a trader to enter a new market.

Point-to-point trading, and the two-level system with which it is associated, may be seen as a response to deficiencies in knowledge, security of contract, and credit facilities, and to variation in trading practices among markets.[17] Its consequences are a certain rigidity in trading channels and a sluggishness in the reactions of prices to localized shortages and surpluses. If it could be removed by some sweeping decree, however, and completely impersonal buying and selling in some sort of auction market substituted, it is quite likely that the system would collapse. For then all of the imperfections of knowledge, measures, standards, and contracts, the problems presented by farm storage, and the lack of regional specialization would come into full play. As things are, broker and trading partner arrangements permit the system to function reasonably well, so long as it does not have to adjust to large and rapid changes.

The obstacles to rapid market response that we have attributed to the point-to-point system are reinforced by the structure of the African trading firm. Almost all are single proprietorships, and the occasional partnership is likely to be a very loose relationship, with each partner pursuing his own interest but rendering reciprocal services to the other, such as tending his stall, or sometimes loaning supplies from his stocks when the other runs out, or joining together in buying expeditions. Traders in foodstuffs rarely can obtain credit from banks, and almost all of their resources come from their own savings and those of their families. The capacity of the firm, both in terms of finances and of personnel, is thus quite limited, far too limited to maintain trading relationships over a very wide range of markets. Even in their customary markets traders may frequently find them-

[15] It would be interesting to know if the use of brokers in West Africa was introduced from the Arab world to the north.

[16] Who may be referred to locally as either "partners" or "customers."

[17] Lack of a common language also contributed.

selves unable to take full advantage of buying opportunities because they have not enough money or because they cannot command enough transportation. There is at least a partial justification for P. T. Bauer's advocacy that the United Africa Company enter into the wholesale food trade in West Africa (*3*).

Brief mention should also be made of a damping of market response to new opportunities, or to the exploration of new possibilities, that is a probably unintentional consequence of governmental monopoly of trade in major export crops or, as in Kenya, of major domestic food crops. The merchant who enjoys a lucrative trade in a major commercial crop can afford to experiment with new crops that may or may not prove profitable. The economies he enjoys from his major trade can be extended on a trial basis to new products. The marginal costs for such ventures are small. Where the "big trade" is placed under state monopoly, however, the "small trade" suffers. Two examples will suffice, one historical, the other conjectural.

In Sierra Leone, Mutti and Atere-Roberts report that the main trade in peanuts was formerly carried on by a few large foreign traders whose principal business was buying and selling rice. Then the rice trade was closed to foreigners, and the governmental Rice Department, later the Rice Corporation, was granted a monopoly of the trade in imported rice and became an increasingly important dealer in domestic rice. The trade in peanuts, which is a cash crop for more farmers than is rice (*22*, p. 177), continued to be in private hands, but by 1966/67 Mutti and Atere-Roberts were unable to find a single assembler-wholesaler of that commodity (*26*, p. 64). Once the big trade in rice was lost, there was no one to assume the little trade in peanuts.

The other example comes from Teso District, Uganda, and grows out of a field study by Victor Uchendu and Kenneth Anthony (*35*). The Teso farmers grow cotton as a cash crop, finger millet for their own consumption and for sale. Cotton planting is delayed, and yields are seriously reduced, because the optimum planting time coincides with the critical weeding time for finger millet. Maize is a possible alternative crop to millet that could be weeded much more quickly by ox-drawn cultivators. Its introduction might be possible if it could first be grown as a cash crop. But no traders come to Teso who might buy maize for sale in the cities of Uganda, or perhaps illicitly in Kenya, because the big trade in cotton is entirely controlled by governmentally licensed monopoly ginners.[18]

These three kinds of restraints on responsiveness, or capacity to adjust to new circumstances, illustrate the complexity and the subtlety of the problems that must be faced by governments undertaking the massive adjustments that will be made necessary by the Green Revolution. They are also intended to point up the need for careful study of just how a marketing system actually operates, and why it performs in that way, before decisions are made about the appropriate form that governmental intervention should take.

Marketing Costs

Marketing costs may be considered in terms of the difference between the price paid by the consumer and the price received by the farmer and in terms of costs

[18] The Ministry of Agriculture has tried to persuade Teso farmers to sow finger millet in rows, so that it too could be weeded by ox-drawn implements, but that is another story.

received or utility lost because of misallocation by the marketing system. Only partial or indirect information was gathered on these two kinds of costs.

The farmers' share of the consumers' dollar as measured by the price which wholesalers paid in the rural supply area tended to be large in all five areas. Prices of gari in Ibadan's principal supply area were about 66 to 77 per cent of city retail prices in 1962–65; maize, which comes from farther away, sold in the principal producing area for 37 per cent of city prices. Thodey estimates on the basis of reported market prices that gross margins available to assemblers, wholesalers, and retailers of yams were 20 to 30 per cent; for gari about 20 per cent; and for maize 60 per cent or more. Information obtained by interviewing wholesalers showed gross margins for yams of 44 per cent but margins for maize of only 29 per cent. These differences have not been reconciled. Retail margins ranged from 4 per cent of retail selling prices for rice and cowpeas to 9 per cent for maize and 14 per cent for yams. The data for the Enugu supply area are less complete but suggest similar trading margins. Net retail margins in the two areas are probably on the order of 5 per cent.

Ibadan wholesalers' net margins had a median value of 7 per cent, a maximum of 8.4 per cent. These "net margins" include the return for the trader's labor, management, entrepreneurship, and capital and may have had to cover support of unpaid family labor. Retailers earned an average of about 3*s*. a day. Wholesalers averaged 11*s*. a day, but the largest wholesaler in the sample, whose sales exceeded £500 a month, had a net return of 33*s*. a day. This is to be compared with an average wage of 5*s*. a day for skilled male laborers in Ibadan (*22*, pp. 156–59).

In Sierra Leone, Mutti and Atere-Roberts found the spread between the price paid by retailers and the price they received to be 35–41 per cent for pounded peanuts, cassava, and fufu, which undergo considerable processing at the hands of retailers. Total margin for rice from farm to consumer based on official prices was 38 per cent, i.e., farmers received 62 per cent of the consumer's dollar for their paddy (*22*, pp. 208–10).[19] This may be compared with 39 to 43 per cent of the consumer's dollar received by rice farmers in the United States in about 1959 (*34*).

The scale of legal prices for maize supplied to the Nairobi market in 1965 provided payments to farmers that were 56 per cent of the retail price of whole maize in the city, 52 per cent of the price of maize meal (*posho*). The farmer's share of the board's (wholesale) selling price in his own district was 60 per cent. Retail margins for dry edible beans, also a board monopoly, ranged from 13 to 30 per cent; for potatoes, which are not controlled, owners received about 60 per cent of retail value, a share similar to that reported for yams in the Ibadan area (*22*, pp. 247–50). In none of the areas except Kenya was there obvious restriction of entry into either wholesaling or retailing.

It should be noted that statistics of gross margins and farm-retail price spreads may be read in two ways: they may be low because marketing is being carried on at low cost, but they might also be low because the marketing system is providing few services. Both inferences are probably correct for the African countries. The question remains, then, whether it is more important that the farmer receive a larger share of the consumer's dollar, or that the consumer be able to purchase

[19] D. E. Welsch found farmers supplying rice to Port Harcourt in Eastern Nigeria to be receiving 54 per cent of the consumer's dollar (*36*, p. 345).

more services. (It might also be possible for the farmer's share to remain constant while prices paid by the consumer and services provided to him are rising. I am told that this is the present objective of some California fruit growers' associations.)

Low price spreads between farmer and consumer may also arise when allocation over time, space, and form is being performed imperfectly. Evidence of misallocation was sought in seasonal price movements, correlation of prices among markets, weekly price changes, and year-to-year price movements. Only for Nigeria were the data sufficient to pursue this analysis very far. Our general conclusions are that average seasonal movements corresponded rather well with the cost of storage (*22*, pp. 134–37); that intermarket price correlations were somewhat less than might be hoped for;[20] that year-to-year price movements were generally in accord with supply and marketing conditions;[21] but that week-to-week price changes showed signs of serious random disturbances consistent with the hypothesis that traders were poorly informed about episodic changes in the conditions of supply and transport. In Nigeria, over a period of 12 years for which prices were available, there was no significant upward or downward trend in the prices of staple foods, suggesting that the marketing system was performing its basic task reasonably well, although it may not have been doing so in respect to resource allocations in the face of changing economic conditions.

The cost to consumers of misallocation of supplies depends to a considerable extent on whether or not the dietary typically depends for the greater part of caloric intake on one starchy staple or on several. In southern Nigeria, for example, where yams and manioc are the major sources of calories, but may frequently be supplemented or replaced by maize or rice, and where the palm oil used in frying and in sauces also provides a large amount of calories, erratic unforeseen shortages probably affect the prices of commodities randomly. Under such circumstances the consumer easily substitutes an alternative staple for the one that is high in price, so that the cost of staple food calories continues to be fairly constant. On the other hand, if one staple far outweighs all others in the diet, as rice does in Freetown and maize does in much of Kenya, episodic shortages may cause serious consumer distress, even outright hunger. To the extent that fluctuating prices represent a cost to the consumer, then, episodic misallocation is a more serious cause for concern in the monostaple economies.

General Evaluation

In terms of the tasks that marketing systems are asked to perform, the African ones that we studied are not performing badly. The Nigerian systems appear to function best, and the Western Nigerian system is providing more than half of all staple food calories for a population of about 8 million. The Sierra Leonean market system suffers from lack of public infrastructure, and that country must cope with increasing dependence on foreign supplies of staples. In Kenya a private trading system badly crippled by government intervention still manages to market perhaps four times as much maize in a year as does the official monopoly.

[20] Certainly a great deal less than Uma Lele reports for India (cf. *25*).

[21] Most periods of very high prices in Nigeria appear to have been associated with internal political disturbances and crises.

Except for the rather peculiar problems of Sierra Leone, the marketing systems have been able to adjust to the introduction of new crops, the development of urban demand, and other changing conditions of demand and supply. It must remain an open question, however, whether they have the capacity to accommodate themselves to the kind of changes presaged by the Green Revolution. On the face of it, it seems unlikely that they can do so without governmental help based on much better understanding of the critical role of marketing than governments have been inclined to show.

MARKETING AND THE GREEN REVOLUTION

In one of a set of background papers prepared for the American Assembly's conference on world hunger that was held in the fall of 1968, J. George Harrar and Sterling Wortman set forth the opportunities afforded by the Green Revolution. They say (*12*, pp. 89–90):

> There is no doubt that less-developed countries now can, if they so choose, obtain dramatic increases in levels of food production and thereby stimulate economic development as they relieve the misery of their people. . . .
>
> Some of the nations are beginning to realize that it is now possible to move rather rapidly from subsistence farming, with its low and static yields, to a dynamic, market-oriented, highly productive agriculture—one offering a sound base for general economic development and hence leading to creation of the wealth needed for essential public health, educational, and other social services.

The developments that have created these opportunities are technological; the means needed to realize them are largely economic. Earlier in this paper we have argued that they lie essentially in the area of economic exchange, of allocation of goods and services.

Examination of some African marketing systems shows them to be reasonably competent in performing their tasks when confronted with gradual changes in technology and in demand, although few would argue that these gradual changes have been made an engine for transforming African farming into "a dynamic, market-oriented, highly productive agriculture" that would offer "a sound base for general economic development." Commercial farming in tropical Africa is oriented primarily to exports; only when it can also place a major emphasis on production for domestic consumption is it likely to provide the necessary stimulus to economic growth, and for a very simple reason. Most African consumers, perhaps 90 per cent of them, live in rural areas; and the largest part of their incomes tends to be the food that they grow for their own consumption. If this consumption could be supplied by the market, the effective demand so generated would have a value considerably greater, in many countries, than the value of their crop exports. More important, it would open up opportunities for specialization in agriculture and in manufacturing that could provide the necessary base for general economic development. Unless this sort of change is effected, it is hard to see how the potentialities which Harrar and Wortman envisage can be realized.

The essential change that the seed-fertilizer revolution makes possible, if we

may consider this important part of the Green Revolution alone for a moment, lies in the availability of new varieties of cereals that have a greatly enhanced capacity for responding to commercial fertilizers. It therefore transfers part of the task of growing crops from farmers to chemical manufacturers, and it also requires that farmers be able to secure the services of seed multipliers. This implies first that farmers have the financial resources to obtain these two inputs, and second that producers and merchants in nonagricultural sectors are able to supply them.

At the other end of the productive process there will also be need for improved organization of distribution and processing, with a similar necessity for transfer of additional functions from farm to town. Some years ago J. Noyen estimated that Congolese farmers expended just as much labor in processing peanuts as they did in growing and harvesting them, 4 times as much on corn, and 5 times as much on manioc (*21*, p. 264). The possibilities for transferring these activities to small mills located in the towns must remain unrealized as long as the rural producers continue to be largely self-sufficient in staple foods, but if rural market demand for foodstuffs expands, as it has in Yorubaland, such mills could provide an extremely fertile breeding ground for the growth of a manufacturing sector. It is unfortunate that excessive preoccupation with the problems of farmers has sometimes led governments to adopt measures that repress this sort of development, as they did in Kenya, where the official government monopoly on maize has resulted in prohibiting operators of thousands of water-powered corn mills from selling cornmeal. On the other hand, Elon Gilbert reports that in Northern Nigeria some millers who had formerly ground sorghum, corn, and millet only for a fee were beginning in 1967 to advertise meal for sale (*11*, p. 187).

The immediate and obvious problems created by the new technology are how to harvest, transport, and store crops that may be several times larger than have ever been known before, but their solution is essentially mechanical if sufficient funds are available. The next problem will shortly be where to find markets for the greatly expanded production of cereals as country after country achieves export capabilities. But that problem, too, is capable of relatively easy solution if domestic price support levels are permitted to fall. Much more difficult will be the evolution of policies to permit each country to realize the great potential advantages of specialization that are now possible. It will require major changes in cropping patterns as land now in rice, corn, and wheat is put into other crops and the whole process of farming becomes increasingly specialized. The nature of policies with respect to the marketing system will have a great deal of influence on the speed with which these changes are made and with their impact on other aspects of the economy.

One major concern must be the extent to which the new technology can be introduced without reducing employment in farming. Proper agricultural and marketing strategies could employ the new techniques actually to increase farm employment (cf. *17*; 7), but if supplies of the new inputs are difficult to obtain and the new outputs difficult to market because of inadequacies of the distributing system, large farmers with ample resources will enjoy a distinct advantage through their greater bargaining power. This could reinforce the tendency al-

ready apparent in some of the less developed countries to large-scale mechanized agriculture.

The critical role that marketing and economic exchange must play in nation-building and economic development requires that they receive the same attention by government and planners that is given to other sectors of the economy. The invisible hand cannot be trusted completely to guide economies in socially acceptable directions, nor can the state rely on the marketing system to perform the tasks assigned to it without appropriate facilitating services best provided by government. But the market mechanism, if wisely used, probably continues to be the most effective instrument for realizing the greatly increased advantages of division of labor that the new technology makes possible.

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