



CHAPTER 1

*A Summary*

## **Future Trends and Needed Adjustments in U.S. Agriculture**

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CHANGES ARE TAKING PLACE faster in contemporary U.S. agriculture than at any other time in the history of the world. The need was never greater for people to be acquainted with the true situation in all phases of agriculture and in rural society and the likely trends in the next decade. This understanding is essential for our agricultural colleges, agricultural extension services, agricultural experiment stations, U.S. Department of Agriculture, farm organizations, rural communities, and the public. The rapid changes in agriculture call for changes and reorganization of the institutions associated with agriculture.

The greatest problem facing agriculture is the management of changes which accompany rapid adoption of new technology. Colleges, research and extension institutions, and farm organizations need to orient their activities more toward solving this problem. This is important for continued economic progress in the United States and it can be significant in foreign economic development and, therefore, in world affairs.

The agricultural adjustment problem in this country is related to the total economic revolutionary movement that is taking place in the world. Until a few years ago the industrial revolution centered around the Atlantic basin. The modern version is world-wide in scope and it is marked by *the rapidity with which underdeveloped nations want progress*. Rapid progress or adoption of new technology must be accompanied by rapid economic and social adjustment. Man has made great progress in scientific and technological discoveries. He has not done nearly so well in solving the problems of economic and social adjustment.

The most challenging problems today are how to facilitate economic and social change in a democracy. In the present world, if economic and social changes take place too slowly or not at all, or if they are misdirected, then the rate of adoption of new technology will be retarded, progress will be slow, social upheaval can occur, and the masses of people may not share in the benefits of progress.

Whether or not the agricultural research and educational institutions can take the leadership to solve the problems of agricultural adjustment in the United States is tremendously significant. The United States is looked upon as the leader in agricultural technology; but we will not continue to be a world leader unless we can keep U.S. agriculture in step with the rest of our economy. This could be the key to the development of rapid progress and peace in the entire world.

## FARMING AND ECONOMIC PROGRESS

Rising incomes of farmers depend considerably on the continued growth of the total economy. When the national economy expands, the adjustments in farming to meet changes can be made much easier. The adjustments will enable farmers as well as the rest of society to share in the benefits of adopting new farm technology and the increased farm productivity. Farmers, therefore, have a profound interest in total economic growth in the economy.

Most of us think that our form of government and our policies in the United States have been the most conducive to growth. We are constantly searching for ways to preserve those principles which have been and will continue to be essential in promoting growth. We also are attempting to change and adapt government policies which will promote economic growth in our present and future economy.

Farming, on the other hand, has and can continue to contribute greatly to total economic growth. The two important contributions are (1) the release of labor for off-farm work as we get increased productivity per person on the farm, and (2) the lower cost of food resulting from greatly improved efficiency in farming. In the early history of our country 90 percent of the people were working on farms while now only 8 or 9 percent are farming. On the average, consumers are currently spending only slightly more than 20 percent of their incomes for high-quality convenience foods.

The improvement and continual recombining of the human, natural, and man-made resources are essential to economic growth. As growth takes place, agriculture and other segments of the economy become interwoven into a complicated pattern. The productive resources must move from one segment of the economy to another for greatest progress.

The production of all goods and services in the United States has increased about 3 percent per year for the last 80 years. In more recent years this has been 4 or more percent per year. The production per man-hour for the country in the last 10 years increased about 3 percent per year, while in farming it increased about 6 percent per year. However, the value of the production for one hour of work in farming in 1958 was only \$1.64 as compared with \$3.38 in nonfarm work. The rate of growth of the entire economy during the 1960's is expected to be as high or slightly higher than in the 1950's.

### **THE FARM PROBLEM**

The farm problem in the United States is a growth problem. It arises from the rapid technological changes and growth in productivity in farming. The farming sector of the economy has not been able to digest rapidly all of the changes so that farmers could share proportionally in improved incomes. In other words, the whole structure of farming has lagged in adjustment.

Even though farm production increased 25 percent during the fifties and the number of farm workers declined 26 percent, incomes of farm people (in terms of what they can buy) declined 2 percent per person. In 1959 income per farm person, from all sources, was only 43 percent as much as income per nonfarm person.

When new technology is adopted rapidly, farm production is increased rapidly. Excess production results. The nature of demand for farm products is such that the small excess in the market greatly depresses farm prices and, therefore, farmers' incomes are depressed drastically. If farmers as a group could keep their production per farmer down to nearly a constant level, or if enough farmers went out of business to keep total production about the same, farm prices would not be depressed and farm incomes would increase as costs were reduced or efficiency improved. This restriction of production has not been done.

Therefore, it is to the advantage of the individual farmer to push his own production as high as possible. His only way to increase his income is to increase the number of units sold and to reduce his costs per unit.

Many farmers stay in farming even in the cost-price squeeze mainly because they have high fixed costs. Over a period of time, however, the situation can deteriorate so far that some farmers are forced out of farming. This helps to correct the situation, but it is too slow and brings serious chronic hardships in the whole farming sector of the economy.

A rise in prices pulls labor, capital, and land resources into farming more quickly than they are reduced when farm prices decline.

The surpluses and low returns on labor, capital, and land used in farming are caused by the greatly increased productivity of these farm resources, resulting in overproduction. The situation, then, is that too many of these resources are in farming relative to the demand for farm products. Consumers indicate, through their purchases and prices offered, that they prefer more of these resources used for other products or services. Total quantity of resources (more capital, less labor, and same land) in farm production has remained nearly the same in the United States since 1940, but farm production has increased about 50 percent.

The increase in prices paid for farm labor relative to prices of man-made resources such as fertilizer and machinery explains why capital has been substituted for labor and land. Fertilizer prices in the last five years were only about 51 percent above the mid-thirties prices, machinery prices were about 91 percent above, farm wage rates were about 355 percent above, and land values were about 225 percent above.

Farms which have not made adjustments in recent years are becoming farther and farther out of adjustment as more new technology is developed. The extent of farm

maladjustments is represented by the present deficiency in average size of the family farm. According to a recent study of crop costs on a group of farms in Ohio, the average cost of corn on 160-acre farms was 10 cents more per bushel than on 640-acre farms. This made a difference of 60 percent in the profits in growing corn. Family farms should double their present size and employ one-third to one-half less labor if they are to achieve maximum efficiency.

There are three main reasons why labor transfer out of farming has been most difficult: (1) the scattered location of farm labor in all parts of the country, making shift to other employment more difficult; (2) the training and experience of farm labor, oriented mostly toward farming; and (3) the number of births on farms greatly exceeding farming opportunities and making the number to transfer relatively large.

The advance in technology and the adjustment problems, particularly of farm labor, will likely continue for at least the next decade. Perhaps a question could be raised whether we should invest greatly in research to develop new farm technology aimed at replacing farm labor unless we also invest enough to solve and assist with the problems such farm labor has in transferring to higher income jobs off the farm.

Part-time farming has facilitated the transfer of some farm labor away from the farm and has resulted in improved incomes for these individuals. Income of farm people from off-farm work is about one-third of farmers' total incomes.

The farm problem is mainly the low income of farmers. However, underlying this or related to it are: (1) the difficulties of balancing over-all production with demand, (2) difficulties of enlarging the individual farm business and obtaining greater efficiency, and (3) the rural community and public affairs problems confronted in a rapidly growing and changing economy.

## DEMAND FOR FARM PRODUCTS

In examining the imbalance between production and demand we need to look at the probable trends in demand and the possibilities for demand expansion in the next decade. Best analysis of trends in population, buying power of consumers, special food consumption programs and promotion, quality improvement, new uses of farm products, foreign trade, and relief indicate that total utilization of U.S. farm products will increase 10 to 14 percent by 1965 and 20 to 27 percent by 1970. The lower figures represent the increase without any special programs, and the higher figures would result from the most favorable assumptions that could be made as to programs and economic trends.

Prospects are not very bright for demand to increase enough to bring about a balance between farm production and demand. The most optimistic projections of utilization would mean that in the next 10 years demand might increase about as fast as farm production, assuming production increases at the same rate as during the 1950's. This would still leave production exceeding consumption as much as it does now and the surpluses as great as they have been. The surpluses on hand at present amount to about 12 to 13 percent of farm production in 1959. If farm production was held down to the 1959 production and the present surpluses were consumed, we would have production and consumption balanced by 1965.

It is seriously questioned whether various demand-expanding programs by the government can do much to close the gap between production and demand. However, many of these programs are worthwhile and can be justified for other purposes rather than just for correcting the imbalance. Domestic food expansion programs, including aid to low-income people, promotion and advertising, quality improvement, etc., might increase consumption at most 1 or 2 percent by 1970. A stepped-up program of finding new uses for farm products may not expand total demand since increased new uses for some farm products likely will

be counterbalanced by decreases resulting from nonfarm product substitutions.

Even with continued vigorous export programs, total agricultural exports are not expected to increase greatly, at least until the latter part of the 1960's. It would be optimistic to assume that even one-fourth of the increased food needs of underdeveloped countries would come from the United States by 1970, and this would mean only an increase of 2 percent in the utilization of U.S. farm products.

The main increase in demand for farm products will come from the increase in population in the United States of 9 percent by 1965 and 19 percent by 1970. One to 3 percent increase in demand might come from a 10 percent increase in incomes or purchasing power of consumers by 1965 and 20 percent by 1970. This income change will mean a further shift of food consumption toward livestock products, and this would require an increase in farm resources of about 4 percent by 1970 to make the corresponding shift toward more livestock production.

As incomes increase, people in the United States spend about .15 to .2 percent more for food for each 1 percent increase in income. Most of this increased expenditure goes for better quality and additional services or conveniences rather than for increased quantity of food. As the incomes reach higher levels in the United States, people respond less and less to changes in their incomes as measured by changes in expenditures for food.

In response to price changes, consumers will change their expenditures for food about 1 percent for each 4 or 5 percent change in prices. This also would make a difference of about 1½ percent in the amount of farm production resources needed, considering that there would be some shift between livestock and cereal grain production.

Progress in improving farm incomes through greater marketing efficiency is possible but at best it will be slow. One of the main reasons why it is difficult to change



marketing costs of farm products is that prices of many items making up marketing costs (materials, facilities, utilities, freight rates, wage rates, and others) are determined in markets extending across other sectors of the economy. There is an opportunity, however, to improve efficiency and competition in marketing, which can increase returns to farmers.

### **SUPPLIES OF FARM PRODUCTS**

Since the late 1930's agricultural productivity appears to have increased at a pace substantially greater than that of the non-farm economy. Total agricultural production has increased about 50 percent in the last 20 years.

The greatest increase in farm production since World War II has been in soybeans (180 percent), feed grains (45 percent), rice (70 percent), beef and veal (42 percent), and sugar beets (90 percent). Since 1940, corn yields have risen 81 percent, grain sorghums 150 percent, cotton 84 percent, wheat 40 percent, tobacco 51 percent, and potatoes 118 percent.

Increase in total farm production per man-hour since 1940 has been 185 percent, with only 89 percent for livestock and 203 percent for crops. We use about 8 percent of our labor force for farm production while Russia uses between 40 and 50 percent.

Our carryover of wheat amounts to 130 percent of one year's domestic and export needs, cotton 60 percent, and corn 60 percent. We have more than twice as much corn and feed grains, three times as much wheat, and considerably more cotton than we need for carryover. In other words, about two-thirds of the Commodity Credit Corporation holdings are actually surplus stock. Feed grains as a group have been building up to a troublesome level. The important point is that, given a few years, the surplus might be worked off — if we did not continuously have excess production. The government has been taking about 8 to 9 percent of total U.S. farm production in the last few years.

About 60 percent of this is disposed of by giving it away or selling at discount prices, and the remaining 3 to 4 percent has been added to the surplus stock each year.

According to present production and consumption trends, excess production by 1965 could be 13 to 14 percent. Of course, restrictions may be applied by government to curtail this. If no further restrictions are used, the imbalance of production and consumption of feed grains is likely to grow worse by 1965, even with large increases in livestock. Further surplus pressure is expected in production of cotton, wheat, and milk by 1965. Excess production could easily continue for at least 15 years.

### **CROP PRODUCTION**

We have more land available for crop production in the United States than we need to produce our requirements. Excluding Alaska and Hawaii, about 370 million acres were used for cultivated crops in 1960. Nearly 330 million of these acres were harvested. In addition, we have an estimated 243 million acres of land (110 forest, 105 pasture, 28 conservation reserve) which are fairly well adapted and could be used for crop production. There are about 45 million acres used for crops regardless of the fact that the land is not well adapted to crop production. This still leaves a net of about 200 million acres of extra land which could be cultivated. There may be a demand for the use of some of this land for timber and pasture production, but it still leaves a large reserve capacity for potential cultivated crop production if and when we might need it.

Cultivated land is owned mostly by individuals who have little opportunity to obtain an income from it except to produce farm products. It is difficult for farmers individually to remove excess acreage from production in order to balance over-all supply and demand of farm products unless they receive some remuneration for discontinuing the use of the land. The government may compel farmers to reduce acreage, but this meets with resistance unless

farmers are compensated. Even if farmers remove some land from production, they will tend to maximize their income either by increasing production on their remaining land or by bringing presently uncultivated land into cultivation. Then, in order to hold production down, more land needs to be removed from production. We have a real problem of harmonizing individual, group, and public interest in the ownership and use of land and water.

The greatest potential for increased farm production in the next 10 or 15 years is the adoption of new technology to increase yields per acre. Production increased about 25 percent during the 1950's but there was little change in acreage of land used. Additional capital investments and less labor made farmers more dependent on items purchased from nonfarm sources. As the prices of these items went up and farm prices decreased, the cost-price squeeze developed. Sixty to 65 percent of total costs of production on general farms in Ohio represented out-of-pocket costs. The chief factors increasing yields in the 1950's were combinations of fertilizer, irrigation, improved seed, mechanization, crop protection, and conservation. Increased use of fertilizer accounted for over one-half of the increased yields.

Today's — and tomorrow's — farmer must possess more management ability, more capital, and more technical skills than ever before to combine new technology and thus achieve the highest possible net income. The average investment per farm increased nearly 50 percent during the 1950's. Because of the differences among farmers, the production and farm income per farmer varies more widely than it ever has in the past.

We need to develop the most desirable patterns of land use in this country over the next few generations. This will require research, public education, discussion, and action. Once we develop what we think is desirable land use, we can design public policy to lead us in the desired direction. For example, it can be made the most profitable alternative

for individual farmers and others to use land in accordance with best public interest.

### **LIVESTOCK PRODUCTION TRENDS**

The increase in productivity per hour by farmers in livestock production has not been nearly so great as in crop production. Main increases have come through improved feed utilization. Most of this has been with poultry, but break-throughs in research on other livestock can be expected. Gains in efficiency of labor are being made and are likely to take place through enlargement of individual farm operations, mechanization, automation, and more specialization. It is expected that livestock will be fed out on fewer farms, on farms with larger volume of business, on more specialized farms, and under more confined and dry-lot systems.

Grazing livestock and production of forage for livestock utilize about 60 percent of the total land area of the United States.

The shifting of the national diet toward livestock products and away from cereals has been about the equivalent of increasing demand 3 or 4 percent, in terms of farm resources required. This is about as much change as we might expect during the 1960's.

Since livestock production requires more farm resources to produce than cereal products, it has been proposed that we shift food consumption more toward livestock products. However, to make a substantial shift of this sort would require a costly subsidy to the consumer because of the higher price for livestock products. The estimated increased cost to U.S. consumers would be nearly one billion dollars to buy 1 percent more livestock products and 1 percent less cereals. The subsidy by government likely would be more than this to persuade people to make the shift. This 1 percent shift might require 2 or 3 percent more farm resources for production.

## FARM SIZE, CAPITAL, AND TENURE

The family farm, defined as the farm where most of the labor and management are combined in the same individual or family, is still the dominant factor in U.S. farming. It does not seem to be losing out to larger-than-family farms, in spite of the great technological advance. The family farm closely associates the household and the farm business, but these do not need to be located at the same place. The farm family does not need to own the land or the capital. The only requirements are in regard to labor and management. It fulfills the desire for self-sufficiency and the freedom of enterprise in a modern commercial market system.

Most of the advantages of large-scale business can be realized on the family farm. Certain types of integration could be destructive to the family type of farm, if there is strict off-farm managerial control. For example, the combined integrated business might be most profitable with its farming segment operating at a loss.

Marked expansion in capital used per farm and in total capital investment in U.S. farming has occurred in the last 20 years. The new tractor power technology has pushed farming into larger units. Investment in the most efficient and productive family farms is much larger than investment in average farms. According to a recent study of family farms the estimated total investments required to obtain a net income of \$5,500 varied from \$73,000 to more than \$371,000 per farm.

Renting furnishes a means for expanding farm size. More renting is done in the higher farm income areas such as the Corn Belt than in the low farm income areas such as the Southeast. Partnerships, mostly father and son, offer opportunity for smooth transfer in ownership but are not favored by farmers for general use. There is a small increase in number of farm corporations, including family corporations, especially since the revision of federal tax

laws favoring small corporations. The amount of managerial power retained by the farm operator in corporations is variable depending on the tenure arrangements. The farm corporation is likely to increase but not likely to dominate for a long time.

Farm supply firms and marketing firms may expand their own sales by extending credit and other services to farmers where farmers cannot obtain such items elsewhere in order to expand the size of their farms.

It is difficult for many farmers to obtain ownership of land and also own all the capital required for a farm business large enough to obtain even \$2,500 net farm income. Present returns to land on the average are below the mortgage interest rates. Increasing amounts of external capital are likely to be needed in farming. There will be more and more separation between the people who own the farm resources and those who use them. This separation of resource ownership and use may mean a reduction in the role of the farmer as a manager with some types of tenure arrangements. These tenure arrangements probably will need to be changed if the farmers are to maintain control of the farm business.

### **FARM SUPPLY AND MARKETING ACTIVITIES**

The total complex of agriculture, on and off the farm, is called agribusiness. The on-farm portion is declining but the off-farm portion has increased. Declining number of workers on the farm has been accompanied by an almost equal increase in employment in the farm supply industry.

Over 6 million workers are employed in the farm supply business in the United States. About 10 million are employed in transporting, processing, and distribution of farm products. The number of workers on farms now is about 7 million. This makes about 23 million workers in agribusiness — about one third of all employed workers.

About 60 percent of farm production expenditures are for items from off-farm sources. The feed industry has

been increasing rapidly. There are important economic and adjustment problems of farm supply firms mainly involving the need to increase the volume of business. Some machinery dealers and machinery manufacturers are starting to rent equipment to farmers, enabling farmers to expand their farm size. There is an increasing amount of machinery sold in "packages" for a whole production system.

Great change in the technology of nitrogen fertilizer production has taken place as the fertilizer has shifted from organic to synthetic origin. Competition is keen in the fertilizer business and adjustments are taking place.

The number of workers in food marketing increased 40 percent in the 20 years between 1939 and 1959. Farm workers declined about 33 percent in this period. Marketing services are increasing because of more built-in maid services, fewer people growing their own food, longer transportation of food, and more meals eaten away from home.

The size of the buying firms (marketing firms) have grown much larger than the size of the producer-seller (farmer). Large retail stores are increasing direct buying of farm products, bypassing brokers, wholesalers, and terminal markets, and therefore shortening the marketing channel. Marketing firms are making rapid adjustments to meet internal and external changes. Direct buying by retailers is likely to increase.

The processing food industry continues to increase. The number of assemblers of food, first step from farmers, are declining. Farm supply, feed dealers, hatcheries, and seed firms are increasing contract and integration activities.

Farmers need to adjust production and marketing to large scale buying practices. Cooperatives may help in obtaining large quantities for sale but coordination of production, timing, and quality is necessary too. With declining terminal and central markets, price making has changed and price news is more difficult to assemble.

Integration may stimulate production through superior

management. Cost reduction in marketing and financing, as well as in farm supply industries, should improve farm prices and reduce farm costs.

### **FEWER FARM PEOPLE**

Only about 21.2 million (12 percent) of the present population are farm people and nearly one-fourth of these do so little farming that they should not be counted as farmers, leaving about 16 million (9 percent) of the population.

Rural nonfarm population now outnumber farm population almost 3 to 1, which means that farmers no longer dominate even the rural sections.

About half of the people who are leaving the farm are between the ages of 15 and 34. This helps to expand the younger nonfarm labor force. A net of 7.2 million persons left farms in the 1950's. Due to the high birth rate as compared to the death rate on the farm, the total farm population declined only 3.9 million in the fifties. Even if the movement off the farm is further encouraged, it is doubtful if the net movement will be as large in the 1960's. The movement off the farm in the 1950's was greatest in the South, among tenant families, and among Negro families.

Only about 15 percent of the farm youth will be able to enter farming during the 1960's. Farm youth have a special advantage in the area of agricultural related business. The total number of young people entering the labor force will increase very rapidly in the year 1965. For this reason it may be easier for farm labor to transfer to non-farm employment prior to 1965 than afterward.

### **RURAL COMMUNITY**

The changes taking place in rural communities have given rise to many public problems. These problems are related to, and are nearly as great as, the problems of farming resulting from the changes in farm production and marketing.



The typical situation now is a network of rural communities containing specialized centers for education, shopping, medical service, church, and other services. This is replacing the single well-defined self-sufficient community.

The trend is toward larger units of operation and administration for social institutions which serve rural people. The one-teacher school, the one-doctor community, the part-time minister and church, the township welfare agency are all giving way to large units in order to get better services, new services, and more services. However, the more distant and impersonal services of the larger units make it more difficult for people to participate in the public affairs decisions.

All types of communities are undergoing adjustments whether their population is expanding, declining, or remaining stable.

To keep in step with changes, communities must (1) have widespread understanding of changes, trends, causes of change, and consequences of change; (2) understand need for people to develop and improve methods as well as take action for solving problems; (3) have flexibility and adaptability to changes; (4) determine and recognize goals of individuals, children, and the community; and (5) recognize the need for people in the community to give more time, thought, and energy to meet problems shared in by others. In other words, they need to give more attention to public affairs.

The most significant trend in rural schools is the consolidation of small schools into larger ones for efficient administration, tax support, improved quality of instruction, and more specialized services. The number of one-teacher schools declined about 87 percent in 40 years — 1917-18 to 1957-58.

More rural people participate in church affairs than in any other organized community activity. Rural churches in the next decade will face serious problems of adjustment in size, in quality of service, and in meeting needs of more

heterogeneous groups of people and fewer farm people. Most rural churches need to be two or three times as large in membership as they are now.

Farmers are buying twice as much medical care as they did in the late thirties and early forties. They still are not using physicians or dentists as much as rural nonfarm and urban people. Special federal aid for hospital construction and medical centers since 1945 has increased hospital service and improved medical service to rural people. Further increase in medical services, more coordinated hospital and other medical service plans, and improved and specialized services are needed by rural people.

Rural recreational services are increasing in importance and will demand more attention. Some of these services are often interrelated with rural and urban people. Farmers and rural people have increasingly shared in social security and welfare programs.

Rising taxes reflect the growing interdependence of our society and the increasing demand for such public services as welfare, medical care, social security, roads, schools, fire protection, farm programs, etc. Increasing local and state taxes will be required to finance more public services growing out of increasing population and density of population in some areas. Continued technological developments will have impact upon community services and facilities. More highly trained and educated citizens will be needed. Taxes tend to be highest in sparsely populated areas. Property taxes are decreasing in relative importance and income taxes are increasing.

With the rapid and drastic changes taking place rural people are developing much more interest in planning community development and using rural zoning as a means of public control to bring about the orderly development. Zoning may be used more, as it is already in California, for restricting the best land for farm use.

Local government, like the farmer, needs to adjust to technology and to technical expertness. They have been

slow to do this. Local governments in some cases seem to be breaking old boundaries. Modern needs are causing some of them to fragment with certain functions being combined into larger county, region, and state units.

A variety of means are being directed toward solving community problems and more are needed. These include such groups and activities as rural zoning, planning boards, community councils, and the rural development program.

### **GOVERNMENT INCOME AND ADJUSTMENT PROGRAMS**

A basic conflict has existed between price- and income-supporting programs and production adjustment in that a price serving the income objective exerts a pull on production in the wrong direction.

Production restricting programs on certain crops have been ineffective in controlling total farm production, mainly because of rising yields and shift of land to uncontrolled crops. Programs for restricting total farm production, for example, soil bank, have not been put into effect on a large enough scale to be completely effective.

Land retirement on a larger scale probably could be more effective. There are a number of variations of land retirement. It may be voluntary or compulsory. It may be concentrated on good land areas or poor land areas and on parts of farms or on whole farms. It will vary in costs and control — larger costs with the voluntary program and more strict control with the compulsory program.

Marketing quotas might be more generally used. Some farmers would object to the strict controls necessary under quotas. In order to accommodate adjustment, quotas might be made negotiable. This would allow production to shift to larger farms and from one area to another as it would more likely do under free markets. The negotiable quotas would tend to be capitalized into the farming business and thus become a cost.

It is not possible to maintain the number of farm people in farming at the 1960 level. The farm resource which is

most in excess is farm labor. The level to which farm prices and incomes generally may be raised is limited, without conflicting with other segments of the economy. Perhaps more improvement in farm incomes can be achieved through assisting farm labor to transfer out of farming and assisting the remaining farmers to obtain sufficient size and efficiency in their farm business. This would include education of youth and adults, off-farm employment assistance, and community adjustment. A favorable aspect of this type of resource adjustment is that it would contribute to the total progress of society through still greater productivity and more valuable use of labor resources.

A complete government farm program for U.S. agriculture is not simple to develop. Strong consideration will be given to a combination of domestic and foreign demand expansion, labor and land transfer, marketing and production restrictions, education, and research.

#### **LAND GRANT COLLEGE, AGRICULTURAL EDUCATION, AND RESEARCH**

The land grant colleges, the agricultural experiment stations and USDA, the agricultural extension services, and agricultural education, are facing a real challenge. They have contributed greatly to general progress and farm efficiency. They need to face agriculture as it is today and adjust their programs so that they continue to contribute to general progress and farm efficiency. The answers to problems of adjusting to rapid changes in technology must be found. The education of youth and of future agricultural leaders must include methods of adaptation to change and skill in solving new problems which arise rapidly. With the specialized nature of agriculture or agribusiness more emphasis is needed on management. We also need to train people to work in the farm supply, processing, and marketing businesses as well as in farming. College students need a good balance between applied and basic training.

While there will be fewer farmers in the future, we will need more well trained farmers. The opportunities for employment in agricultural related businesses and services will continue large and perhaps increase. All these factors should be kept in mind in improving vocational agriculture and college training in agriculture.

The agricultural extension service needs to adapt its program on the one hand to do much more in the areas of individual farm and related agriculture business adjustment problems. On the other hand, the increased interdependence of rural people calls for much more educational efforts on community and general rural development. This includes many aspects of public affairs; those at the local level, and those at national and international level.

If agricultural education is to stress the areas mentioned here, then the agricultural experiment stations and other research agencies need to place emphasis on research in these areas. Much more study is needed on the problems of the individual farmer, the agricultural business firm and the farm people in making adjustments. We are seriously short of research on the use of basic resources of land and water, capital, labor, and management. Public affairs of rural communities need much more analysis. The orientation of much of the agricultural research in all areas may be influenced considerably if we objectively analyze the true situation and trends in agriculture and rural society.

Society expects the public supported agricultural, educational, and research institutions to take the lead in anticipating and developing understanding of the great problems of agriculture; to develop procedures, alternatives, and programs for adjusting to the rapid changes taking place; and to be an influential force in making agriculture, as well as the entire economy, strong.