

R. BURNELL HELD

Resources for the Future
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Can Other Use Be Made of Agriculture's Excess Acres?

A SERIOUS IMBALANCE exists between the agricultural sector of the American economy and the rest of the economy, an imbalance that scarcely needs documentation, although this can be done quite vividly with some quick comparisons of changes that took place during the 1950's. Price movements give us this opportunity. The index of wholesale prices of industrial goods rose during the period and was 27 percent higher in 1959 than in 1949. On the other hand, the price index for farm commodities, even with the operation of the highly condemned price-support program, was 4 percent lower at the close of the period than it had been at the beginning.¹

The factors which supported demand in agriculture's domestic market from 1949 through 1958 were not depressed. Per capita disposable personal income, in constant dollars, rose 18 percent; the population of the United States increased by nearly 25 million persons, or 17 percent. Agricultural output kept pace with these changes, increasing 17 percent during the same period. Domestic consumption of agricultural products, however, rose by only 12 percent, and exports followed an erratic pattern but accounted on an average for less than 8 percent of the total utilization during the period.²

OVER-COMMITMENT OF RESOURCES

The consensus of economists is that there is an over-commitment of resources in agriculture, primarily land and labor, but neither of these showed any permanent increase from 1920 to 1960. The increase in farm output during the 1950's has

¹ Economic Indicators. Prepared for the Joint Economic Committee of the U.S. Congress by the Council of Economic Advisors. April, 1960. Washington, D. C.

² Measuring the Supply and Utilization of Farm Commodities. Agriculture Hand-book, No. 91. USDA. Supplements for 1956 and 1958, Tables 1b and 28.

come about with no appreciable change in the combined value of production inputs measured in constant dollars. The number of man-hours used for farm work actually dropped 31 percent during the period and cropland planted was reduced 35 million acres, or nearly 10 percent. Increased use of other production items offset almost completely these declines.³ And yet, another 30 to 50 million acres of cropland, depending upon its quality, could be withdrawn from cultivation now without seriously impinging upon current levels and patterns of consumption.⁴

We are not confronted with a temporary phenomenon either. Although land is, and will continue to be, an extremely important input in agricultural production, its relative contribution to farm output is smaller in 1960 than it was even in 1950, and this is part of a trend which can be expected to continue into the future. The opportunities for such things as fertilizers, supplemental irrigation, improved crop varieties, insecticides, herbicides and chemical growth regulators and greater managerial skills to substitute for land are increasing, particularly as they are used in combination rather than singly. These new inputs in effect replace land, but a comparable quantity of land is not withdrawn from production. True, some land is idled. Some is taken for highways, reservoirs, urban expansion and other uses as such needs arise, but the bulk of the land remains in production. Only through the operation of the Soil Bank program have significant acreages been removed from agricultural production.

It is often difficult to shift land from crop production to other uses. First, although it would be advantageous to agriculture as a whole if production were curtailed, the competitive structure of agriculture prevents an individual farmer from making such a move, for he will lose rather than benefit from it. Further, the continuing changes in technology just mentioned have made it both possible and necessary for many farm operators to increase, rather than reduce, the scale of their operations. Additional land often enables them to make more economical use of the relatively expensive new equipment in which they must invest and to utilize more fully their labor and their management skills. While many farms contain some cropland of low quality which logically should be retired in favor of higher quality land, it is either difficult, or not worth the trouble, to separate this from the other land, and perhaps just as difficult to find additional land of higher quality elsewhere to replace it. Furthermore, although cropping such

³Agricultural Outlook Charts '60. USDA, and Crop Production, 1959 Annual Summary. USDA, p. 45.

⁴Alvin C. Egbert, Programming Regional Adjustments in Resource Use for Grain Production. Unpublished doctoral dissertation, Iowa State University, Ames, 1958.

land may yield only enough income to cover the cost of planting and harvesting the crop, and the farm operator would be just as well off to let it remain idle, he may not appreciate what the cost and return situation really is on that land.

If a tract of marginal cropland is of sufficient size, it may have some potential in grazing, timber production or recreational use. This assumes of course that either the present owner or someone else has the desire and the resources to so develop it. Isolated small tracts are a problem, however. Imagine, for a moment, what might be accomplished were it possible to consolidate them and make them accessible. But land cannot move to take advantage of an unsatisfied demand for land elsewhere. The would-be user must be able to get to the land instead and, thus, location and access become strategic factors. Land which enjoys such an advantage with respect to the user's requirements enjoys an advantage that cannot easily be offset by the superiority of other attributes of land more distantly located, or by the willingness of that landowner to accept a small price or rental for the use of the land than that which must be paid to the owner of the other land.

FLAWS IN THE LAND MARKET

The failure of more land to move out of agricultural uses may also be a reflection of certain weaknesses in the land market. Is the land market less rational than the markets for other resources, or is it simply that we sometimes fail to appreciate influences at work other than those with which economists are commonly concerned? Land may continue in agricultural use, even when returns to it in this use are lower than the returns from other uses because of psychological, social, political and other institutional influences. For example, farm land is as much a consumption good as a production good in some areas. Production for the market may well be of minor importance compared with the other satisfactions the farm produces for its operator. In some communities, farm ownership in and of itself is a prestige symbol. In other communities, the life and identity of a religious sect, the Mennonites for instance, are closely tied to the agricultural society it has established. Agricultural communities with birth rates higher than those necessary to provide the necessary replacement of farm operators and where emigration is hindered for some reason may cause farm rents or land prices to be bid to levels out of line with rents or prices for land of comparable quality and situation elsewhere.

The land market is definitely imperfect in a number of respects. Other factor markets are not perfect either, but are probably relatively more perfect. The land resource is in the first place absolutely immobile, while other factors are at the most only relatively immobile. Immobility immediately puts a premium upon the location of the resource over and above other characteristics or qualities of the resource. Transactions are relatively infrequent, and a series of transactions may involve situations differing so much from each other as to give only a very inexact picture of what the market would be for land of a particular quality and a particular location. Information on prices may be guarded and communication between potential buyers and sellers poor. A significant imbalance in the number of potential buyers and sellers is not uncommon.

This is not meant to be a complete inventory of the factors which prevent the use of assumptions approximating a market under perfect competition when examining the allocation of land for agricultural purposes. The influence of such factors is suggested by the anomaly of a continuing upward trend in the index of farm real estate values when over a 10 year period the trend of income of farm operators per farm has been down.⁵

If the land market were more rational, would this help to ease land out of farming? Would the alternative opportunities for the land surplus to crop production become evident if an effort were made to remove the market imperfections or adopt measures to offset them? Such efforts would undoubtedly bring about some shifts of land from agricultural use to more intensive uses as well as other uses more extensive in their use of land. But how much greater would the shift of farm land into urban related uses be today, given a more responsive land market? How much greater would the shift be to grass and timber?

SHIFTS TO MORE INTENSIVE USES

Since users of land for urban-related purposes are able, for the most part, to bid well above the level than can anyone who wants the land for agricultural purposes, and since the power of eminent domain is also available for the use of governmental units for the purchase of highway rights-of-way, reservoir sites and the like, it would seem unlikely that the present trends in land acquisition for such purposes would be greatly changed.

⁵Agricultural Statistics, 1958. USDA. Table 615, p. 431, and The Farm Income Situation, USDA, Feb., 1960. Table 10, p. 33.

There likely would be a much greater change in the shift of cropland into grass and into timber. Considered in terms of the quantities of land that might be absorbed by such uses, the potential in the relatively extensive uses is much greater than in that of the more intensive uses.

Although there is a more liberal use of land for urban purposes of various sorts when the price of land is low, if the demand function for land were determined for a large urban area and contrasted with that of a smaller urban area, it is quite possible that the demand for land in terms of the price of the unimproved land itself would prove to be much more inelastic for the larger urban area than for the smaller urban area. The larger the area, the more important the location becomes, and for a business enterprise of any size, increments of space beyond an optimum level may actually have a negative value.

CHANGING URBAN PATTERNS

The automobile is now changing the pattern of urban development. It has enabled suburban development to take place at a greater distance from the business centers of the central city. It has also made suburban shopping centers attractive to the suburban customer who must drive instead of walk or use public transportation to a shopping area and who wishes to avoid the congestion and parking problems of the older established downtown area. The new suburban shopping areas probably make a much more lavish use of space per dollar of sales than the downtown business districts, but no matter how inexpensive additional land might be, there is an advantage in limiting the surface area of the development to keep the shops closer together for the shopper on foot and as close as possible to the car parked in the surrounding 5,000 car parking area.

Even the suburban householder, desirous of a spacious lot for his house, does not want so much land that he would have to either hire a staff of gardeners to keep it up or run a flock of sheep on it. And, of course, there are city dwellers who gladly forego the pleasures of occupying surface space and piloting a power lawnmower over it every week when the grass is growing rapidly and prefer to occupy the air space above the surface by living in an apartment house.

The rate at which land is moving into nonagricultural uses is difficult to determine but it is sometimes estimated to be of the order of $1\frac{1}{2}$ to 2 million acres a year. Accepting the highest figure for the moment, assuming no change over time in this rate of

transfer and that 25 percent of this land would be cropland, these uses would exhaust 35 million acres of surplus cropland in 70 years. Of course, the rate may increase. The need for cropland may also increase. Furthermore, it is important that one know more precisely the productive capabilities of the cropland that will be taken. Land relatively unproductive in agricultural uses must possess qualities which make it productive for other uses and must be strategically situated or it will be passed over in favor of productive farm land.

THE IMMEDIATE SITUATION

The probable impact of the events of the quarter century from 1960-85 upon agricultural production with particular reference to the use made of agricultural land is an important area of study, but the more immediate concern of farmers is the present, or at most, the next five years. It is little consolation to a farmer today to be told that perhaps, and only perhaps, the competition for land for other uses will have absorbed a sufficient quantity of land now in agricultural production which, together with an increased demand for agricultural commodities themselves, will have restored equilibrium to the agricultural economy by 1985. If there was not the human element to consider in this matter, perhaps we could be satisfied to wait out the 25 year period. But even then, this kind of thinking completely ignores the dynamics on the supply side. The increases in the productivity per acre which agronomists, agricultural engineers and other workers from the biological and physical sciences have told us are within the realm of physical achievement and which have been considered to be economically feasible, offset, in some degree, the expansion of the demand side of the market.

If the chances of "growing out" of this problem in the next twenty-five years are slight, then there is even more reason for turning attention first to the immediate situation. If it can be done, the goal of diverting land to uses in which its contribution to the sum of social satisfactions is increased is a highly desirable objective, not just for 1985, but for today. Is there any possibility of accomplishing that sort of reallocation of land to different uses?

IDENTIFYING MARGINAL PRODUCTION AREAS

Before alternative uses for cropland are considered, we must have some idea of what land is marginal in crop production. A

pioneering attempt to identify this land has been made by Alvin C. Egbert and Earl O. Heady.⁶ Even with the reservations which they make for their study, this work gives us the best point of departure now available. The study presents a picture of only the feed grain and wheat situation, but these are the crops that are now the major problems. We have no indication of the chain reactions that would be set off if some of the land diverted from wheat and feed grains went into the production of other crops and helped to create surpluses there. Additional information is necessary concerning the alternative opportunities in the production of other crops in such regions.

Elsewhere in this volume, Egbert presents two models of the regional distribution of grain production based on that study and related work. One model represents the farming techniques of 1954, and this will be considered first. The second model represents conditions anticipated by 1985 and allows for changes in costs, yields, etc.⁷

What regions would go out of grain production if total production were limited to normal requirements? Model 1954 calls for the reduction of nearly 29 million acres of land in grain production.⁸ Of this, about 11 percent of the acreage would come out of the Great Plains. The regions which are predominant in spring wheat and the winter wheat production would not be touched except for the fringes. Small areas in southeast Wyoming, southeast Colorado and the southern high plains of New Mexico would also be surplus. The other cropland to be withdrawn exists as scattered tracts, or islands, in the short-grass range country. The immediate alternative for this cropland seems to be grazing or the production of hay.

GRAZING

In his study, "The Economics of Seeding Wheatland to Grass in Eastern Colorado,"⁹ Harry Sitler found that at prices of \$1.70 a bushel and 1954 costs, wheat which in that region averaged 8 bushels or less per seeded acre was of doubtful profitability but that yields had to drop to 5 or 6 bushels before grazing the land

⁶Earl O. Heady and Alvin C. Egbert. "Programming regional adjustments in grain production to eliminate surpluses." *Jour. Farm Econ.*, Nov., 1959, pp. 718-33.

⁷Alvin C. Egbert and Lloyd D. Dumenil. "Identification of nature, magnitude and physical areas of potential supply and demand imbalance," Chapter 11.

⁸Heady and Egbert, *op. cit.*, p. 727.

⁹ARS 43-64, Agricultural Research Service, USDA, 1958.

with yearling steers would be a more attractive alternative than wheat production. His investigation indicated that while there would be problems, they need not be insurmountable if the operator took advantage of the assistance, both technical and financial, offered by existing programs of the U.S. Department of Agriculture. The only exception to this might be the cost of providing stock water.

Cropland withdrawn from production in the Edwards plateau and Rio Grande plains of Texas, and from the cross timbers region of Oklahoma would undoubtedly be shifted into grazing with little difficulty. However, as portions of areas such as the black prairies, the coastal and alluvial plains of Texas, come up for consideration, other alternatives are called for, but what will they be? The same question arises as the fringe areas of the Corn Belt are dealt with. A livestock grazing enterprise is beyond consideration unless such already exists, or, unless a consolidation of operating units is accomplished sufficient to permit organizing an enterprise of sufficient scale to be economically rewarding. Land prices would have to work down in order for this to be accomplished.

Seeking a solution to the problem of excess cropland through its diversion to grassland, particularly as we consider the alternatives available in the Southeast where 48 percent of the unneeded grain acreage is located, is not without further problems. Granted that demand is relatively more elastic for livestock products than it is for grain, none of us is blind to the fact that the price elasticity of demand for livestock products is less than unity. A solution for the problem of one region merely transfers the problem, changed in form, to another region. What would the impact of a large expansion of the range livestock industry in the Southeast be on the West? (And what would happen if the public domain land now used for grazing were to be withdrawn from use?) But perhaps more to the point is the question of what would happen should the farming techniques in the Southeast improve sufficiently to retain a portion of the area in grain production. This is exactly the situation that the model for 1985 presents.

TIMBER PRODUCTION

Timber production can be an attractive alternative on the coastal plains of the Southeast. Southern pine is capable of rapid growth. Under good management a well-stocked stand might be expected to produce an annual increase in volume which, with

stumpage valued at \$30 a thousand board feet, would be worth over \$13 an acre and would net nearly \$12.¹⁰ (Returns of equal value or more might well be obtained from grain production if a comparable level of managerial skill were applied.) The period of waiting until the first returns can be obtained from a tract that has been shifted from cropland to timber production decreases the attractiveness of this alternative. In addition, it will not provide an outlet for marketing the labor resources of the operator once it goes out of grain production. But both objections assume that the land will remain in small ownership units, which need not be the case.

Saw timber and pulpwood production probably offer the most attractive long-term alternative for much of the Coastal Plain area. Nearly 80 percent of the lower Coastal Plain area is producing pine trees, and land suitable for timber production is still being sought out. But the quantity of excess land in these regions is much more than just the land not needed for grain. It includes cropland that is in excess for that needed for cotton production, too.

And now, one might ask, what of land for urban uses, recreation, transportation, reservoirs and the like? As noted earlier, with even 2 million acres of land going into such uses each year, there is no prospect of solving the immediate problem of surplus crop acres in agriculture in this way. Certainly this is not the way to remove the land which is least suited to agriculture. The land which will be taken for these uses will be that which best serves their requirements and may very well be some of the best agricultural land. Except for recreation, a land use nearly as extensive as agriculture, there is little immediate prospect of expanding this rate of use significantly in terms of the problem we now face.

OUTDOOR RECREATION

Let us consider the general field of outdoor recreation. Now, rather than look to the areas which are surplus to crop production, we must look to the areas which are the most desirable in terms of what they can provide in the way of recreational services. The land areas which best fill this need may not be cropland at all, at least, not the most productive or intensively used cropland. This, of course, comes as no surprise to anyone

¹⁰Resources for the Future, Inc. "Forest credit in the United States." Washington D. C., 1958. Table 2, p. 11.

familiar with agriculture. The attributes of the landscape which give a tract of land value for the purposes of recreation are probably inversely correlated with crop yields. For recreational use, the more rugged the terrain, the more interesting it usually is and the greater challenge it is to hikers and climbers. A relatively level area may be more desirable than rougher land for certain types of camp sites and picnic areas, but an open field does not have the additional qualities usually required — shaded areas or bodies of water. A golf course may easily come out of land formerly in crops, but to best serve the purpose the course will be laid out, wherever possible, on undulating rather than level terrain.

Hunting and fishing may or may not take cropland out of production. Lake fishing may require the acquisition by governments of ready access to the lake and boat launching sites. Stream fishing will call more and more for the acquisition of smaller streams and some adjoining land if the state conservation agencies responsible for stocking trout streams are to provide and maintain minimum habitat conditions and if fishermen are to have access to the streams. Relatively little cropland need be taken for these purposes.

Hunting is a somewhat different matter. Land and water areas are required for the use of waterfowl, for nesting, refuge areas during migration and for wintering grounds. Over 8 million acres of land are now used for these purposes — most of it in state or federal ownership. At least 4 to 4½ million acres of wet lands are the minimum of additional land that must be obtained in the near future according to John T. Farley, director of the Fish and Wildlife Service.¹¹ Without them, a ceiling on duck numbers is likely to be reached soon, if it is not already at hand. The acquisition of land for this purpose is necessary to replace wet lands which, in private ownership, have often been drained for agricultural purposes.

Where would this acreage come from? Undoubtedly a good part would come from the upper Middle West. It would come out of cropland, but cropland that is not necessarily marginal in grain production but is taken out of production. The production that is lost there would be supplied by the production in marginal areas, although the substitution would not necessarily be a one-for-one exchange of acres.

The special requirements for waterfowl have been met in the past in multiple-use arrangements on reservoir areas in

¹¹Annual Report of the Secretary of the Interior, 1956. U.S. Government Printing Office, Washington, D. C., p. 283.

connection with irrigation and flood control activities. This kind of arrangement can be expected to be made in the future but is not likely to provide the entire amount of land desired. It should also be noted that while the propagation of waterfowl is given primary attention on the lands obtained for that purpose, recreation facilities are also a secondary possibility.

WILL HUNTERS PAY?

The production of other types of game has usually been possible without the acquisition of particular special-use tracts of land. Up to a point, a population of wildlife species is usually welcome or at least tolerated on farms by farm operators. Wildlife, game in particular, is sometimes referred to as a crop itself, but it is a crop from which the farmer generally derives no gain, and probably experiences a loss after the population of animals reaches a certain level and begins to compete in a serious way with crop production in one way or another. This competition sometimes is not recognized by those who wish to see the wildlife population increased. If there is a desire to increase the yield of such game above present levels, as evidenced by a willingness of hunters to pay the price to make this possible, one might seriously consider the probability of a transfer of some land from commercial agricultural use to the production of game. This is not an immediate possibility, but it is conceivable that the time might come when hunting on private land would be considered less a right that should be available at no cost to the hunter, and more a privilege that he must pay for even though the game which he hunts would still be regarded as public property. Several methods of handling this might be arranged. In some states, public hunting grounds are being purchased. Private clubs which either own the land directly or acquire hunting privileges for their members on private land also exist.

A third arrangement has also been tried wherein the farms within a contiguous area agreed to accept hunters who had paid a special fee which permitted them to hunt on any farm land of the cooperating farm operators. Institutional devices such as these are required if there is to be any shift of land resources from agricultural production to the production of increased quantities of wildlife.

Hunting and fishing are important aspects of the outdoor recreation picture, but only a part of it; they are closer competitors for agricultural land than are most other recreational uses, but they are usually compatible with agricultural use.

ACQUIRING LAND FOR PUBLIC USE

The demand for the services of land in recreational uses does not always find expression in the market as effective demand, for the simple reason that the type of service — facilities for hiking, camping, canoeing, picnicking, etc., as well as those providing satisfaction to a yearning for a place of solitude in an awe-inspiring natural setting, is something that the average American expects to obtain at no direct or out-of-pocket cost. With large holdings of public lands it is possible for far-sighted individuals to press for the preservation of the great spots of unique character in this country, and thus a good part of the National Park System was obtained, and the National Forests as well, without cost, in the sense that the land was already in public ownership. The only acquisition cost was the opportunity cost which, although increasing, is still low. State and municipal parks, forests and related tracts have often been acquired as gifts from public-spirited citizens, as have some of the National Parks, or from the Federal Government. Others have been purchased with funds in part from the Federal Government or were improved by labor furnished by the CCC enrollees in the 1930's. Other tracts were acquired through the reversion of tax-delinquent lands. Outright purchase of Central Park in New York City was made in 1856 while it was still merely hilly countryside north of the city. If Central Park did not exist today, could New York City afford to dedicate an equally large tract within its boundaries for park purposes now? Is Central Park worth its opportunity cost to the city today?

These are not just academic questions. They are the kinds of questions municipalities, states and even the Federal Government must now consider. How much can governments afford to pay for land for recreation purposes? How can this be determined as long as park services are socially provided, but where there is no ready measure of the value the citizen-consumer of these services derives from them and what he is willing to pay for them? The public may be inarticulate in these matters now, but public officials charged with providing park services cannot afford to wait for an answer. It is not just a matter of rising land prices; it is also a matter of obtaining the necessary land while it is still available.

There is some evidence of a growing awareness of this problem. Not only is there an increasing concern that more open land be provided in the newly developing areas and that more natural areas be preserved to absorb the increase in population, but also that open areas be created in the heart of our cities, a goal

largely impossible except where costly urban redevelopment or renewal projects are under way. Attempts to control or direct development on the fringes of suburban areas to preserve open space have been made in some areas through minimum lot-size zoning ordinances, in some instances through the public purchase of land development easements and in some instances by rationing the issuance of building permits.

Measures of this type also might be used to advantage in enabling municipalities to obtain park and recreation areas (by holding it out of other use until their budgets permit its purchase). Some of the land might be acquired through the use of options. But in many instances, the only way to acquire the land will be through immediate purchase.

If present recreational facilities are inadequate and additional land is required, much of it could, or should, be acquired now. New York State is attempting to launch a particularly ambitious land acquisition program. This is highly significant, for although no other state can match it in absolute population, New York, even on a per capita basis, is exceeded only by Maine in providing non-federal public land for recreation purposes. Yet, 96 percent of the state's vast holding of 2.6 million acres is concentrated in three huge units. This makes its land less useful, in some respects, than it would be if the land was spread about the state in a number of smaller parks. The largest, the Adirondack Forest Preserve, is larger than any of the National Parks except Yellowstone. Because this situation does not satisfy the requirements of the state, additional recreation areas are to be acquired.

What would be the impact on cropland if other states were similarly to increase their programs of land acquisition? To the extent that the land came out of cropland, it would have little direct impact on the areas that have been designated surplus. But to the extent that an acre of cropland is removed in Iowa, Illinois or Ohio, an acre displaced from production elsewhere would return to production, or perhaps more than one acre, for although "A rose is a rose is a rose," an acre is not an acre is not an acre. There are quality differences to be taken into account in these geographical shifts in production. Shifts from the humid areas into the arid, non-irrigated areas will bring more land back into production, but hardly enough to make any dent on the surplus problem. The best immediate solution appears to be the Conservation Reserve of the Soil Bank program which to date has withdrawn nearly 28.5 million acres from production.¹²

But after the Soil Bank what? Recreation may require the

¹² USDA. News Release 1056-60, April 13, 1960.

largest absolute quantity of land. If an expanded effort to acquire land for recreation were pursued, it might take a minimum of 35 million additional acres of land by 1985. The requirements of other nonagricultural uses, excluding forestry, might take another 30 million acres. This is an imposing statistic — 65 million acres of land, which we know cannot come out of thin air. The important thing to know, however, is the location of this land and its present use.

A large part of the increase in land for recreation purposes would probably come from forested areas. The U.S. Forest Service sees the possibility that some 10 to 15 million acres of National Forest may be transferred to such use.¹³ Not all of this would come from commercial stands of timber, however. To the extent that it would take commercial timber, its loss might be partially offset through more intensive management and use of present forest areas. Other suitable but unplanted, or understocked, sites could be developed. Some of these may now be cropland. But activities of this sort must get underway now if the timber is to be available when it is needed.

Hugh Johnson and Hugh Wooten have estimated that at most, 25 percent of the expansion of urban, transportation, parks, wildlife refuges, reservoirs, national defense areas, etc., comes from former cropland.¹⁴ And some of this will probably have been idle cropland prior to the change in use.

Thus, if a figure of 65 million acres is an acceptable one, it should be reduced to 16 or 17 million acres to indicate the probable loss of cropland. Even if the additional land required for uses outside of agriculture by 1985 were as high as 100 million acres, this would mean a loss of perhaps only 25 million acres of cropland.

Thinking in terms of the impact of these changes in agriculture, it is important that we attempt to locate them as well as we can. Will the growth areas coincide with the areas of present surplus land? In some areas, yes. The Southeast is one example. The upper Atlantic seaboard is not. Lower Michigan is. California is not. Yet, while these areas may not all coincide with the surplus regions, if they remove cropland from production, this indirectly brings land previously in surplus back into production. The same reasoning holds when the 2 or 3 million acres of land are removed for transportation purposes and land is taken for other purposes.

¹³ Richard E. McArdle, Address before the American Paper and Pulp Association, Feb. 25, 1960.

¹⁴ "Extent and significance of non-agricultural uses of rural land and water," *Jour. Farm Econ.*, Dec., 1958, pp. 1315-26.

Taking a look at what might be considered surplus cropland by 1985, using Egbert's model in which we must assume that the land now available for crops is still available, we note that much of the land in the Southeast, withdrawn from production under today's circumstances, would be producing grain in 1985 while sections of the Dakotas, Minnesota, Wisconsin, Illinois, Indiana and Missouri would be left out.

Again, we have the benefit of a starting point. This picture would be greatly modified, however, by other changes which could not be taken into consideration in the model. The land required for nonagricultural uses may have absorbed 16 million acres or more of this cropland by then. Probable differences in the productivity of the land withdrawn from crop production for other uses and the land replacing it would be likely to call into production a greater number of acres than those removed, but again, this difference would not be sufficient to absorb large surplus which the model indicates would exist by then — 40.5 million acres.

The shift of cropland into forest production is not ruled out. It is perhaps misleading to depend too much upon the 1985 model at this point for information that it was never intended to supply. If the price of forest products rises sufficiently, as it well may do, the grain production called for the Southeast may not come about, while the regions programmed for current production of grain crops, but set aside by 1985, might well be producing farm crops.

Yes, there are alternatives, seldom direct alternatives for the land that is surplus to present agricultural use, but alternatives that hold promise of the production of goods and services of greater social value than unwanted stocks of grain. Further, the most important alternative uses, in terms of the acreage they can absorb, can be reversed if by some chance the requirements for agricultural land should be greater than those now anticipated. But the alternatives may not be sufficiently large to absorb all the land that is surplus, or, the transfers between uses may be too slow in coming about. A real question ahead seems to be one of whether we will have the institutional machinery available to assist in making the required shifts in land use and capable of overcoming the innumerable obstacles that are bound to arise.