Causes and Effects of Land Use Policy in the United States*

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American farm land policy, like that of most nations in the free world has been based on the philosophy that a farm was the possession of the man who owned it and, such being the case, he could do with it as he saw fit. He could sell it to any buyer, bequeath it to any heir, rent it, or mortgage it. He could actively farm it or neglect it. If he wished he could abuse the land by erosion so as to render it useless for generations.

This philosophy of land ownership is the antithesis of the philosophy that the land is, if a commodity in any sense, a commodity with unique characteristics. Because it is irreplacable and virtually fixed in quantity, and because its continued productivity is vital to human survival, it must be considered a natural resource to be husbanded to the benefit of the whole community.

In its extreme form the commodity principle has existed chiefly in countries with large undeveloped land areas, such as United States, Canada and Australia during the 19th century. In its extreme form the national resources principle was found in the manorial system which flourished in England and on the European continent in the 13th century. The manor was a self-contained village on a fixed area of land, and for at least five centuries from the 8th to the 13th the manors were steady state, closed ecological systems. The manor fed itself, clothed itself, housed itself and warmed itself and did only a minimal amount of “outside” trading.

The resource principle has been applied in fairly extreme form,

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within the last 50 years, in the Communist countries which tried on a national scale to do what the manors did on a much more modest scale. When the Communists first took over a country they generally applied the resource principle with characteristic rigor. Later they modified it to permit some "private plots." Uniformly the "private plots" have outproduced the Communist collectives, persuasive evidence that people are alike whatever the name of the system; and they work much harder for themselves than they do for anyone else.

American land policy actually began with an unsuccessful attempt at communal farming. The first permanent English speaking settlement in America was at Plymouth Massachusetts in 1620, and during the first summer the settlers tried communal farming. They loafed communally all summer and then starved communally all winter. The idea of an agricultural commune* was quickly abandoned, and the private plot commodity principle prevailed in quite pure form in America for a little over 300 years.

During this period English speaking people, almost all of European origin, took over the continent from the aborigines who were mostly hunters and fishermen and who made limited use of the land. The new settlers practiced fixed location farming, and the national policy was to expand the area of such activity to embrace the entire arable land area from the Atlantic to the Pacific and to develop each plot to its maximum feasible yield.

This was a period of dynamic technological development, and farming methods changed greatly in the 19th century and the early part of the 20th. Gasoline powered machinery replaced draft animals. Oxen disappeared and horses were largely restricted to recreational uses. Chemical fertilizers of impressive potency largely superseded animal manure. Herbicides and pesticides were developed and took much of the hard labor out of weeding and cultivating.

The nation was in the process of rapid industrialization and the demand for factory labor was so great that factories hired

* This idea appears in literature like Sir Thomas More's "Utopia" a work somewhat alike.
labor away from the farms adding extra pressure to the process of agricultural mechanization. A farmer had to mechanize to survive; he simply could not pay competitive wage rates to hire manpower for labor intensive farming. Once the mechanization process had gone thru its first cycle, machinery began to get bigger, and as this progressed, American farms began correspondingly to get bigger. The 40 acre (15 hectare) family farm largely disappeared and successful farmers began to buy adjoining or at least nearby land until by now wheat properties of 500 hectares can be operated by one man with a little extra contract help at harvest time.

Nowhere in the recent world have either the principle of the private plot or the principle of the national resource survived long in pure form. Mixed systems have emerged on both sides of the iron curtain. America entered last half of the 20th century with its private plot, commodity principle substantially modified by various processes of regulation.

One kind of regulation of agriculture products began early in the 20th century to assure the purity of milk and of animals slaughtered for meat. Federal inspection and grading of agricultural products expanded and government has recently begun to supervise prepared and packaged "convenience" foods which contain chemical additives.*

* For example, a very large conglomerate corporation acquired a national chain of bakeries. They at once set their efficiency experts to find ways to make the bakery business more profitable. The experts concluded that if they could extend the shelf life of each loaf by one day through chemicals to retard spoilage, the corporate profit could be increased by about $10,000,000. Research chemists produced such a substance but the question arose whether the spoilage retardant might not incidentally injure consumers. This problem arises only when huge volumes are involved. The extra profit on 100 or 1,000 loaves of bread is insignificant. When a single chain of bakeries counts its annual output in hundreds of billions of loaves of bread, a saving of 1/1,000 of a cent a loaf is worth making. This kind of bigness adds a new aspect to governmental regulation.
Direct regulation of farm operation began in the 1930's. For complex reasons growing out of World War I, American farms had been valued at high prices in the early 1920's and most of them had been mortgaged on the basis of 1920 values. In the late 1920's values dropped sharply and second class farms found themselves in trouble. By the middle 1930's the trouble had extended to first class farms. Most farms practiced crop rotation and did not try to raise crops like wheat and corn on the same fields in consecutive years. In order to raise cash to meet mortgage payments, individual farmers in these years had every incentive to plant bigger areas and to do it every year.

But in the same years agricultural surpluses began to accumulate all over America, and wheat which had been $3.00 a bushel in 1919 dropped to 50c a bushel or been less. The larger the surplus grew, the lower fell the price. As prices fell the individual farmer tried harder and harder to grow more wheat, yet more wheat he and the other farmers grew the lower went the national price. The economic incentives impelled the individual farmer to do things that worsened the condition of farmers collectively.

To break this circle, both political parties in 1932 the presidential proposed schemes to reduce farm output and support farm prices. Both proposals were quite similar. The Republican proposal reflected chiefly the thinking of Alexander Legge and the Democratic Proposal that of Rexford Tugwell and Raymond Moley.*

The Democrats won the election of 1932. Modified by rulings of the Supreme Court and by many circumstances, the policies adopted in the mid 1930's continued until fairly recently. In brief, this policy was two fold (1) Price supports so that major farm crops would not sink below a determined level and (2) Limitation

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* Raymond Moley was the man to whom Mr. John C. Lincoln gave responsibility for the development of the Lincoln Foundation, and who subsequently backed my proposal that the Foundation establish in the Republic of China a branch through which Americans could learn about China's land reform and land use policies.
of output through a complex licensing scheme which allowed each farm so many acres of wheat or whatever crop was under control.

(3) Positive incentives to remove second and third class land from annual crop production.

The early and middle 1930's had been our "dust bowl" years when much dry top soil blew off the western farms, especially those west of the 100th meridian. Rainfall west of the 100th is considerably less than to the east. The transition is gradual but the "100th" make a convenient line of demarcation. West of the "100th" considerable land that had been farmed was returned to grazing; and other soil conservation practices were employed as appropriate, including soil conservation dams to halt gully erosion, and reforestation of areas better adapted to tree crops than to field grains.

During the 40 year period from 1932 down to the present, the acreage of the American farm plant shrank considerably and productions nevertheless rose much more than equivalently. This was not because of mechanization. Machinery saves only manpower. Increased production occurred because of higher yielding strains of all major crops, plus the almost universal application of very high potency chemical fertilizer plus the use of other chemicals to keep down weeds and eliminate various pests.

Fifty years is a short time compared with China's 3,000 year experience growing rice on the same plots. We really do not know what the chemical fertilizers, pesticides and herbicides may be doing to our soils or to our nutrition. There is a minor boom in America in organic gardening. The organic gardener raises vegetables in large gardens or small farms without chemicals, relying entirely on animal manure and compost.

The growing production of the major American farms over these 40 years, coupled with heavy industrialization and a national policy of retiring second class land from production had the effect of eliminating a large number of farms which had been moderately productive in the first quarter of the century. Connecticut for example had been a farm state in those years, specializing in
dairying. The technology of the dairy industry changed in this period and small dairy farms generally went out of business. In 1975, aside from some land especially adapted to growing a type of tobacco used as cigar wrappers, Connecticut’s erstwhile farm land has grown up in forest or else has been absorbed into urban uses. Much the same thing has happened all over the American Northeast. All through the six New England states, parts of New York and Pennsylvania and south through the Appalachian mountains, large areas have been abandoned.

Meanwhile in central New Jersey and southeastern Pennsylvania a really sizeable area of splendid farm land has gone out of production and has been converted to industrial use.

For all practical purpose a farm is lost forever when an industry buys it, erects a factory on part of it and paves a large area as a place for employees to park automobiles. Many factories bought two or three times as much farm land as they needed in order to have plenty of room to expand later on. This surplus land conceivably could be returned to agriculture but the industries would fight to retain control of it and it is now scattered about in uneconomical sized and, from a farm operational standpoint, mislocated parcels.

This property which was converted from farming to industry had good highway and rail access, and was close to large cities. Exactly the same characteristics prevailed and still prevail with respect to the rice paddy land, south along the main highway from Taipei to Taichung. Eight years ago when I first became a regular visitor to the Republic of China, I noticed with dismay that industry had invaded some of your excellent and entirely irreplacable paddy land. In the next two or three years I was appalled at the rate of agricultural land loss. Several American land economists had begun to speak and write on the importance of preserving farm land at the urban-rural interface, and conservationists were reassured when the government of the Republic of China halted the conversion of farm land to industrial use.

As in the 1930’s factors are at play which encourage individuals to make choices contrary to long run social best interests. In the
1930's each individual was under pressure to grow more, whereas society collectively needed to have him grow less. In the 1960's and 70's in many parts of the world the individual could make more money selling his rice paddy to an industry than he could by growing rice, and he could do it without getting his feet wet or developing a lame back. But society's needs were the exact opposite. Society collectively has an overwhelming need to have land stay in rice production.

In America during the years when prime eastern farm land was forfeit, industry would pay from four to ten times as much per acre as a farmer could. The pressure to sell was tremendous on the individual farmer.

The conversion of land from farming to industry housing or some similar use was part of the urban rural interface. The problem can be seen clearly in the rapid conversion of large areas from farm to industry. It is less clearly visible but no less important as farms and housing tracts interface each other on the outer rings of growing American cities.

Americans like to build houses on large lots. Individual city houses in the Republic of China are not too common and are on very small lots. Some houses are on lots of 125 square meters. The average American equivalent in 1975 was being build on about 2,400 square meters. Few were built or less than 1,200 square meters and some were built on plots of 5,000 square meters or more.

A medium sized American house might itself cover 200 square meters, a little more than a large Fukien style farm house in a Taiwan village. In America the large residue of land not actually taken up by the house is largely given over to lawns or ornamental planting.

Because of the American preference for large lots, much farm land is absorbed in urban uses. American land economists are beginning to ponder the problem that was faced here beginning ten years ago. The island of Taiwan is not as firmly closed an eco-system as a 13 century European manor, but the ecological
similarities are more striking than the differences. Taiwan is a relatively small island. It has just so much land and no immediate way to get more. It has 16,000,000 mouths to feed and no reasonable probability that this number will shrink.

America without Alaska is about 300 larger geographically, than Taiwan. It has 220,000,000 people. But America is belatedly awakening to the fact that for all its bigness it is just another semi-closed eco-system, and that it too must conserve land. Conservation of farm land involves zoning along the urban inter-face taxing policy and housing incentives. For 25 years America has offered inducements to encourage construction of new houses in the outer suburbs. Within the very recent past this has been moderated, but at least 25,000,000 homes have been built on the ever-expanding fringes of cities. Obviously this process consumed very large amount of former farm land.

Americans have generally zoned more land for residential development than is needed in the short run. As soon as the probability of residential development becomes apparent, land value rises. In due course it reaches levels at which a working farmer cannot buy it for profitable agricultural purposes, and at this point the working farmer can make more money by selling his land than by operating it as a farm.

The property tax is a significant factor. If the tax is placed too high the farmer cannot keep the land at all, and must sell it. The investor who buys it may use it in some way or another, or simply allow it to lie idle, but the investor must have some outside source of income in order to pay the taxes.

Urban development does not extend outward in smoothly formed concentric rings but pushes out like a series of fingers probing into the surrounding exurbia. As the fingers probe they destroy all the agricultural land that they touch, and also most, if not all, the land in between.

American land economists have sought ways to induce farmers to stay and produce near the cities. Tax incentives were introduced in several states about 15 years ago. A farmer by declaring his
land as a farm can have it taxed on the basis of usufruct value, that is, what is worth as a farm, rather than its capital value — capital value is what it is worth as a farm plus an expectation factor that measures its potential for residential development. On the usufruct basis the farmer can stay indefinitely; on the capital value basis he may be taxed off the land in short order. Most states with heavy urban concentrations have introduced this incentive.

Partial abatement of annual taxes to encourage continued agricultural use near cities needs to be accompanied by taxation of land value increments. The Republic of China has a land value increment tax which rises to 80% on increases in land value. This can be compared with the 25% American tax on capital gains. Many land economists, feel that America should adopt a tax somewhat like the Chinese tax take much of the profit out of converting farm land to urban uses. If such a tax were adopted and specifically applied to farm land on the edge of cities, then a provision actually prohibiting the conversion of farms to urban use would be easier to enact and enforce. If the profit were taken out of conversion, then the prohibition of conversion would seem less like an imposed loss. Furthermore if an owner faced on ultimate land value increment tax, he would have more incentive to retain and operate farm land for its own profits, not just hold it for speculative gains in value.

Many other problems arise at the rural urban interface but the scope of this brief paper does not permit exploring them. America has learned much from Chinese experience. China likewise has learned from American experience. An unchanging or at least an un-growing world faces a growing number of people. If the problems of living space and food production are to be solved without major sacrifice of the amenities of living, it behooves both countries to maintain as much contact as we can, and to share our failures as well as our successes, as we grope for solutions to unfamiliar problems.