

PCB03-218 PL#4

RECEIVED
CLERK'S OFFICE

DEC 11 2003
10/3/98

More Factors to Consider in Making Land-use Decisions

STATE OF ILLINOIS
Pollution Control Board

In my paper of 8/3/98 to the Planning and Zoning Committee on "The Real Worth of DeKalb County Farmland", I focused on farmland's critical economic role in the local, state, and national economy. This paper will focus on the in-county economic benefits of farmland, the ballooning menace of urban sprawl; the water dynamics of our country and region; a second look at socio-economic factors affecting our quality of life; and a critical look at alternative land uses.

DeKalb County farmers buy most of their farming needs (machinery, fuel, fertilizer, seed, herbicide, insecticide) right here in our county. National retail stores like Walmart, Target, and Walgreen do not.

Farmers spend at least part of their profits in our county. National chains send their profits to their home office in other parts of the country.

The farmers' purchases have spawned a lot of small agribusinesses in the county and provided the foundation of one big one. The DeKalb county soil survey report, released in May of 1978, included this statement:

"Many small industries are in DeKalb County, but most people are in businesses that serve farms." Simply stated, agriculture is the backbone that built our county through its infancy and growth for the 140 years included in this report.

Next let's look at urban sprawl. In 1950 the Chicago Metropolitan Area included 6 counties all located in Illinois. By 1995 it had ballooned to 13 counties sprawled over Indiana, Illinois, and Wisconsin. During those 45 years the population growth around Chicago increased 48% - but the land development to accomodate these people increased 165%, or nearly 3 1/2 times as fast. Thus urban sprawl during the last 45 years has been 3 1/2

9-1-5

times as destructive of farmland per person as it was before 1950.

Water resources are another victim of urban sprawl. A study of 100 cities spread across the U.S. showed an average water usage of 150 gallons per person per day. Average domestic water usage is 75 gallons per person per day. The Chicago area in 1900 had drinkable water in places within 30 feet of the surface. But the water table dropped about 10 feet per year and by 1970 was around 700 feet. The near suburbs showed similar drops. Before long it became too expensive to pump water from such great depths, and Chicago switched to Lake Michigan for its water supply. Today some of the suburbs also found pumping water too expensive, and are buying their water from Chicago.

In the U.S. as a whole, groundwater is being used 25% faster than the recharge rate. This deficit is accelerated in any kind of development because of greater water usage and the decrease in the area of infiltration. By way of contrast, our county's farmland has minimum water usage and maximum area for water infiltration.

Some important aspects of development deserve scrutiny. DeKalb City's own staff reports are illuminating. According to those reports 1) the city makes no money on new housing developments; 2) the city school board loses money on such developments; and 3) half of the people who live in DeKalb work elsewhere, while half of the people who work in DeKalb live elsewhere.

In recent annexations, particularly the 173 acres annexed this summer on the west side of town, there was no mention of either a housing shortage in DeKalb nor any demonstrated need for more housing. If farmers deliberately and meditatively used their land to guarantee that they'd lose money, they'd have gone bankrupt long ago. Fortunately for all of us, farmers have a mindset that utilizes our most precious resource in a manner for which it was intended.

Commercial development doesn't have the stability nor longevity of agriculture. Buildings get vacated, abandoned, or torn down when the profit margin dries up or new stores come in. Downtown DeKalb was severely crippled when new stores were built on Sycamore Road, some with generous subsidies from the city government. The movement of Walmart from one location to another added more business casualties. Walmart itself, as featured on "60 minutes" in 1997, has a track record of killing the downtown business sections of some cities when they moved in - and in some cases killing the whole town when they moved out. National chain stores aren't anchored to the land like farmers are and generally rent the buildings: hence they can move out whenever their profits don't satisfy them.

In closing, it seems appropriate to review the socio-economic benefits of agriculture compared to other uses when making land use decisions.

Agriculture produces:

- less water runoff
- less flooding
- less destruction of property in low-lying areas
- faster recharge of aquifers for human and other uses
- filtration by the soil of the recharge water
- cover and food for many species of wildlife
- aesthetic value of open space for everyone to enjoy
- less air pollution
- much less traffic congestion

All of these factors add to the quality of life for everyone, and some of these factors also affect your pocketbook. Countless millions of tax dollars are spent for flood relief every year, the huge majority going to developments. Only a small fraction goes to farmers; and they received

little or nothing in DeKalb County in the 1996 floods.

The most important point to remember is this: every person needs food and water every day. Land produces more than 90% of all our food and fiber, while also protecting our precious freshwater resources. Development destroys our soils while depleting our freshwater supplies. You can see results in a one hour drive toward Chicago. The rest of the world has learned that food and water are our most precious resources. When are we going to start learning?

Clifford A. Simonson
10/3/98

The Real Worth of DeKalb County Farmland

I've spent my life working with agriculture. I'm a Soil and Plant Scientist by trade, receiving my Ph.D. in Agriculture from the University of Maryland. I've watched DeKalb County destroying it's heritage for years and I feel I can no longer be quiet.

Let's look at some historical information regarding the role of agriculture. About 4,000 years ago a number of mighty Bronze Age Cultures crumbled (there's an excellent article about this in Discover Magazine, March 1998, pp. 94-99). These city-states included the early Minoan in Crete, the old Kingdom in Egypt that built all the pyramids, the cities Mahenjo-Dare and Harappa, the Akkadian Empire in Mesopotamia, and the early Bronze Age cities in Palestine. The cities stretched from the Mediteranean Sea to the Arabian Sea, a distance of about 2,500 miles. These sophisticated and well-organized city-states with their grain reserves were considered to be invincible, totally beyond any dependence on weather or nature. But they all collapsed about the same time and we didn't know why - we just knew that they did.

Recently, scientific evidence from dust cores and the Greenland Ice Sheet Project 2 have explained the debacle. Three centuries of drought simultaneously destroyed the agriculture that supported these mighty dynasties. Quoting the author, "the economies of these earlier civilizations - complex and progressive though they may have been - were still fundamentally dependent on agricultural production. In fact, one hallmark of any civilization is that it requires a life-support system of farming communities toiling away in the fields and turning over the fruits of their labor to a central authority." There it was weather that did in

the farmland and their associated cities. Here the farmland is being done in by urban sprawl. Why?

We just don't understand the value of farmland here in the United States. Every developed country in the world - except the United States - is giving top priority to agriculture. Land produces over 90% of the food and fiber of the world. Those materials, like factory products, have intrinsic value. They have value in themselves. In contrast, all forms of service income are extrinsic, having no internal value in themselves. After considering all factors, every other developed country has recognized the importance of preserving the farmland to continue producing food and fiber indefinitely.

In the United States we began with about 600 million acres of land suitable for Agriculture. By 1970 we were down to 500 million acres. We are continuing to lose 1 to 1 1/2 million acres of farmland each year, most of it to urban sprawl and much of that on our best soils. At this rate of loss we would run out of farm land in 4 or 5 centuries while older civilizations like China (4,000 years) and northern Europe (2,000 years) are still going strong. Unlike Northern Europe, the U.S. could be a net importer of food in as little as 60 years. Then we would complain loudly about the high cost of food.

DeKalb County is particularly critical to the preservation of farm land because we have the best combination of soils, topography and climate in the world. Drummer silty clay loam, soil type #152, is the most productive soil in the world after it is tile-drained. There are 117,000 acres of Drummer in the county, a whopping 29% of its total area. Drummer is a major component of Soil Associations #1 through #3, which make up 87%

or 7/8 of our county. And although Drummer is our best soil for agriculture, in housing developments it is often relegated to being a collector for runoff water. What a desecration of the world's best soil!

Only 2% of our population are farmers in the U.S.; the other 98% of our people have little notion of what farmland is really worth to them. If you travel in other countries and compare the price of food there with here, you'll get the point.

Some years ago the Bureau of Agricultural Economics of the USDA made extensive studies of farm-to-market prices. They found that for every dollar of products sold from the farm, it generated another \$7.00 in the nation's economy. Thus a 150 bushel per acre corn crop selling at \$2.50 per bushel is worth not only \$375 - but it actually pumps \$3,000 per acre into our total economy. At this rate our superb farmland soils, that took about 10,000 years to form, would pump \$30,000 into our national economy every 10 years; \$300,000 per acre every 100 years; and \$3,000,000 per acre every 1,000 years. That is not very long compared to China's 4,000 years.

The ratio of 7 to 1 used above is a conservative figure. Prices received by farmers have gone up much less than the price of goods made from farm products.

Here are four examples of products made from the three major grain crops of the corn belt and the great plains. They were all purchased a few days ago at a supermarket in DeKalb. Table 1 gives the basic farm prices for the grains used - the money the farmer gets for his product. Table 2 shows what the consumer pays at the retail market; and the ratio of the farmer's share to what is pumped into the national economy. Averaging the four ratios for these popular foods, each dollar the farmer receives is

magnified 40 times in the National economy. If all the corn off one acre was converted into corn flakes, the worth of that one acre corn crop would be $\$375 \times 55$ or a staggering $\$20,625$ each year. Do you still think farmland isn't important to all of us?

July 1998

FARM-GENERATED INPUT INTO OUR NATIONAL ECONOMY

TABLE 1 BASIC FARM PRICES

<u>CROP</u>	<u>FARMER'S PRICE PER BUSHEL</u>	<u>POUNDS PER BUSHEL</u>	<u>FARMER'S PRICE PER POUND</u>
SOYBEANS	\$6.32	60	\$0.10
CORN	\$2.50	56	\$0.045
WHEAT	\$3.60	60	\$0.06

TABLE 2. RETAIL PRICES OF FOODS MADE FROM FARM PRODUCTS

<u>STORE PRODUCT</u>	<u>STORE PRICE/WEIGHT</u>	<u>PRICE PER POUND</u>	<u>FARMERS SHARE</u>	<u>FARMER TO CONSUMER RATIO</u>
SOY FLOUR	\$2.75/22 oz	\$2.00	\$0.10	1:20
100% WHOLE WHEAT BREAD	\$2.59/20 oz	\$2.07	\$0.06	1:34
100% SHREDDED WHEAT CEREAL	\$2.79/15 oz	\$2.98	\$0.06	1:50
CORN FLAKES CEREAL	\$2.79/18 oz	\$2.48	\$0.045	1:55

I have dealt only with some important economics of farmland's critical role in the local, state, and National economy. Other economic factors would further enhance farmland's importance, along with the many benefits to quality of life for all of us that farmers and farmland provide compared to other land uses: less runoff, less flooding, more recharge of our underground aquifers, filtration by the soil of this recharge water, wildlife cover and food for many species of wildlife, aesthetic value of open space, less air pollution, and much less traffic congestion. All of these should be considered in making land use decisions. My presentation has focussed on the economic importance of agriculture only because that is the least understood aspect of farmland.

C. J. Simonson 8/3/98

Clifford H. Simonson, Ph.D.

Background in terrain investigations, analysis, and land use planning.

1. Prepared strategic military intelligence maps and reports on terrain and its role in military operations on about 7,000,000 square miles in 13 countries in Europe and Asia.
2. Carried out the world's only helicopter soil survey, covering the coastal plain of Guyana, South America (about 5,000 square miles of fresh water marshes and swamps). This 17 sheet map and 608 page report are serving as the landuse plan for the country's populated area. They are also in the National Library of Guyana and the United States Library of Congress.
3. Mapped soils on detailed soil surveys in British Guiana, Maryland and Illinois, including some of the soil series occurring in DeKalb County.
4. Charter member of the Greenbelt, Maryland Advisory Planning Board.
5. Chairman of Committee One, the standing committee that handled all rezoning petitions for industrial, commercial, and residential development in Greenbelt and the surrounding area.
6. This committee also formulated a new master Plan for Greenbelt and the surrounding area that was eventually adopted by the Prince Georges Board of County Commissioners.
7. Later served on the Greenbelt City Council.
8. Served on the Board of Directors of Greenbelt Homes, Inc., the CO-OP that bought the 1820 housing units from the federal government in 1953.
9. Currently a member of the DeKalb County Board, its Planning and Regulations Committee, and its Forest Preserve committee.
10. Earned Ph.D. in Soil and Plant Science, with minors in Chemistry and Geography.
11. At Northern Illinois University I taught six courses in Earth Science:
A 4 hour lab course in Basic Soil Science; Recent Advances in Soil Science - Field Studies; Recent Advances in Soil Science - Laboratory Studies; World Soil Geography (a 500 level graduate course); Physical Geography; and Conservation of Natural Resources.