The Right Mindset

Jack Geiger, GEIGER FARM
MAN MADE—
Pandemic disease, nuclear conflict, CLIMATE CHANGE, biotech, nanotech, AI, physics disaster
Annual arctic sea ice extent

Source: NOAA
WHERE IS OUR AGRICULTURE HEADING???

• All Land Owned controlled by one Entity/Farmer
• Full Automation of Agriculture by AI and Robots
• Agriculture in a Degraded Environment/Hydroponic in controlled Environments?
• Endless War based upon Resources (Cradle of Civilization to the Present Middle-East)
• De-Populated Rural Areas AND Megacities
OCMS------We Don’t Grow Tobacco
Hardest work that I ever done, bent beneath that burning sun
Haulin’ that tobacco ‘round to cure
How we chopped that wicked weed ‘till our hands and fingers bleed
Workin’ like a mule, maybe more
We been farmin’ on this land
Since eighteen hundred ten
Through flood and drought
And pestilence and war
Now I sure am sad to say
That I lived to see this day
And we don't grow tobacco round here no more
We don't grow, we don't grow
Oh, it's still the only work will ever know
Well, we don't grow, we don't grow
We don't grow tobacco around here no more!
Grandpa told me this, I know, change is coming, won't be slow
Knocking just like a thunder at the door
Fallow fields are all around, empty barns just falling down
With iron weeds coming up through the floor
Once we growed it by the pound
Now the kids all move to town
And all that's left are elderly and poor
Now I sure am sad to say
That I’ve lived to see this day
We don’t grow tobacco ‘round here no more

RESISTANCE TO CHANGE + LOSS OF YOUTH IN RURAL AMERICA + REDUCTIONIST APPROACH TO RESOURCE MANAGEMENT = OUR CURRENT RURAL ENVIRONMENT
If I have seen further than others, it is by standing upon the shoulders of giants.

Sir Isaac Newton
• Five generations in Brown County, KS
• Older neighbors willing and able to give opportunities to YOUNG farmers
• Kansas State University— motto: “RULE BY OBEYING NATURES LAWS”
  – Professors who taught:
    • Critical/ Enterprise Analysis
    • Reasoning—MLF
    • Economics (by survivors of the eighties farm crisis)
    • To view soil as a living, breathing organism
      NOT DIRT!
I am a link in the chain, I am not the chain.

Multi-generational approach to stewardship, RECOGNIZING, I hold land in trust for future generations.
Reductionist (adj)
Analyzing and describing a complex phenomenon in terms of its simple or fundamental constituents
This perspective has allowed us to commoditize single variables while discouraging awareness of system implications.

Successful Farming—50 Harvests + Glossy Pictures

“It must be obvious to every man, who considers the agriculture of this country... how miserably defective in the management of [our lands]... A few years more of increased sterility will drive the Inhabitants of the Atlantic States westward for support; whereas, if they were taught how to improve the old, instead of going in pursuit of new and productive soils, they would make these acres which now scarcely yield them anything, turn out beneficial to themselves.”
George Washington

- Referring to tobacco monoculture
- 1794, invention of the cotton gin
- In 1836, more than 100,000 slaves were shipped out of Virginia*
- “Census data for 1860 suggest that the value of slaves directly accounted for almost half the value of all personal property in the South, including land.”*

*David R. Montgomery, DIRT; The Erosion of Civilizations
Factors affecting crop production

- **Soil factors:** Soil types, soil fertility (levels of nutrients), soil depth, soil moisture etc.

- **Pest factors:** Historical or current infestations of soil fungus, bacterial diseases, insects or weeds etc.

- **Management factors:** Crop rotation practices, fertilizer and pesticide applications, tillage practices etc.

- **Technological factors:** Use of farm implements, improved seed, irrigation, soil moisture conservation methods etc.

- **Weather factors:** Rainfall, insolation temperature and humidity.

- **Climatic factors:** Long range weather patterns (frost, length of growing season, start of the rains, end of the rains, degree days etc.)
CONCEPTS AND DEFINITIONS

* A perverse incentive is a POLICY or PRACTICE that encourages either directly or indirectly, resource uses leading to degradation of biodiversity, such as:
  - Environmentally harmful subsidies
  - Persistence of environmental externalities (shall not be considered)
  - Laws and customary practices governing resource use.

Removal of biodiversity perverse subsidy could save biodiversity directly and financial savings could be used to invest to save biodiversity.

Traditional Economic Theory:
Agricultural Factors of Production

- Land
- Labor
- Capital
- Entrepreneur
Figure 1. Index of Prices Paid for Farm Production Inputs, Interest, Taxes, and Wage Rates and Index of Prices Received for Crops, U.S., 1948 - 2009

Zulaf C. and N. Rettig. “Prices Paid for Farm Inputs vs. Prices Received for Crops: Implications for Managing Risk and Farm Policy.” *farmdoc daily* (3):48, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, March 13, 2013.
THOMAS KUHN, 1962, “The Structure of Scientific Revolutions”, His seminal work...scientific revolutions require paradigm shifts.
• Unknown/Unforeseen reality in the environment will CHALLENGE paradigms
• Communication about paradigms is difficult but NECESSARY
• The human factor is UNPREDICTABLE but always PRESENT
A Better Paradigm?...For Ag

• **Labor** - Family (w/ Generational Replication) v Employee (Indentured Servant)
  Individual Value-Added Enterprises v Corporate (Scale)

• **Capital** - Low Input (Less Risk) v High Input (High Risk)
  System Risk Mitigation v Externalized Risk Subsidies

• **Management** - Diversity v Monoculture
  Societal Benefits v Personal Enrichment
WHAT IS THE CROP GROWING IN THIS PICTURE?
Miner (People) + Mine (Family Farms) = Gold (Stable Society)

“Agriculture is our wisest pursuit, because it will in the end contribute most to real wealth, good morals, and happiness.” - Thomas Jefferson
DEFINE YOUR GOALS

My Goals:

• Bring next generation to the farm
• Maintain the health of our land base
WHAT ARE YOUR GOALS?