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Resilient Food Systems and Scaling Up Rural – Project Main Street

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Communities taking ownership. What does it look like? Strategy designed

Pyramid design. Hierarchical food systems. 99% on the bottom. Laboring for the system. At the top are a few who want to control the whole thing. Food pyramid was created to increase profits, not nutrition.

Monsanto and Cargill control nearly everything. Keep people spinning but not changing the essential structure.

Small scale & large scale. The solution comes from the aggregation of many small farms. Otherwise if we don't connect, we can't challenge the existing system of power, control, and ownership.

Look at 3 ways this power system maintains itself
Subsidies,
Wrecking home infrastructure
Expoiting everyone on the bottom. Immigrants & migrant farmers.

Our "Cheap Food" is paid for many times over, and is not cheap.

The place with the largest ripple effect, is if you start with the smallest animal… poultry. Key sector, in the ways that powers around it have been created. Cows, the length of time it takes to raise a cow and resources involved is much greater. With chickens you can start right away, and get in the system. Uses grains, processing facilities, etc. lines you up to have a multiplicity of ripple effects through the whole industry.

First find how many times can we turn a dollar around within the system? Symbiotic connectedness. Engineer a system based on getting people to be securely part of it. Grain production,Grain Processing, etc, harder to be pushed out. (see handout, "The Potential for a Sustainable Food and Ag System")

14 enterprise sectors that are connected to Free-Range Poultry Production. Economic symbiotic. Keep the dollar from leaving. Resilience.

Master design behind it: Earth= Energy into the system. X is the power of a system to transform this energy. Minus energy loss (to the air, into the water, and soil). = Energy Yield (System Efficiency). How nature's systems work. To be responsible, we have to get as close as possible to that energy flow. Minimizing energy loss to increase Energy gain. Control pests, weeds, and make soil fertile. Soil is considered a "medium" not a living thing. Current system, requires lots of input and lots of loss in machinery, etc. If we can control pests, weeds, and increase fertility working outside the system, that becomes an asset, and an advantage.

Starting with the end in mind: Social = needs to address the needs of people who are currently working for the system. Socially responsible when we create equations that allow all of us to unhook from the conventional system, and take ownership and control. Going after the jugular. It's about people.

Economic. Can't be wasteful.

Ecological. If you're going to optimize energy flows, you automatically help the ecology, because you are looking to ecology as a model.

The prototype: Setting up initial investments, calculating the input, and the marketable outputs. Including poultry meat, grains (corn & sunflowers); hazelnuts (perennial); fruits (elderberries); fish meat; aquaponic veggies (year-round); alley cropped veggies (garlic, onions, asparagus).

Hazelnuts outproduce soybeans. Never plow, fertilize, or weed. Manure from Chickens fertilizes hazelnut trees. Hybrid trees. Natives are too small and not predictable.

This year was sunflowers, last year was corn. In between Hazelnuts. Hazelnuts can handle drought and floods better than annual crops.

Nitrogen. Poultry are not efficient, poop out a lot. You want crops that can use that nutrient profile. Put out lots of straw, to balance out nitrogen and carbon. Different depths of root systems.

Seasonal and solar-heated building. Birds come in June 5. Spend 4 weeks inside.

Birds come out underneath the sunflowers once they're tall enough. Planted thick, then thinned out. Next year they'll know the spacing better. Rotating with the corn.

Birds of prey are federally protected. With the sunflowers, you don't see the chickens. Sunflowers become food for the chickens. Taking the guts and the gizzards back from the birds, mix with the corn, becomes fish food. Perimeter fence protects against ground predators. Chickens are secured every night in a coop.

Research & development of a system that's reproducible.

Put the stems into a chipper, turn it into biochar.

This field always absorbs all of the water, it has porousity that allows it to seep in.

"If it doesn't walk, it doesn't leave the farm. Hazelnuts don't walk" (watching energy input & output)

During rains, worms in the soil come up. Chickens come out in the rain to eat the worms.

Chickens rotate from one field to another. As they leave, ground is bare, and barley is sown.
Right before birds are released into new field, germinated barley is poking up. Germination triples its protein, gives microbes and water, and nutrients from the soil. 7 times the biomass we started with. Don't feed the grain directly to the animal. Germinate first.

Day before the chickens come out, put corn out in the rain-soaked earth. They only want the corn to swell up. Chickens go for the sprouts first, then the weeds.

Poultry goes to KB Poultry Processing LLC. Family owned. Have been training people to raise chickens, incubator units. St. Olaf and Carleton are main buyers: "Bon Appetit".

Towards a Regional Natural Foods Brand for Southern MN. Scaling up, building a regional economic competitive advantage.

Continue to train low-income, immigrant farmers.
Build out a scaled-up prototype (fully integrated farm)
Farmers in the region become partners. Securing markets, financing access to land, and community-owned infrastructure.

Move to regional clusters. Clustering = bringing together the full integrated potential of the over 14 enterprise opportunity sectors that meat and eggs opens up.

Discussion:

Q: Elderberries. Hear more?
Native to this ecology. Stem-eaters, deer don't like them. Management is practical. WE have varieties that only grow 4-5 feet tall, so they don't overshadow alley crops. Manure from poultry and fish go into sediment, clean out, pump into a tank, becomes liquid fertilizer. Goes straight to ground. Goes into productivity. Elderberries came with a market…

Integrating the enterprises. Aggregate, value added. Don't just make raw materials for someone else.

Pros and cons of eggs vs. meat market. Egg can go straight to the store. Meat has to be processed. Less than 1000 birds, you lose eggs. 1 acre per production unit. It's different because you have 80-90 weeks of adult birds grazing. The land doesn't build up. They roam more, etc. Very different operation.

Reality: it's hard to get immigrant laborers into the mindset and prepared to start their own production… it's overwhelming. Trainees get enterprise-management training as well as production-training. Once you start putting the pieces together, it takes time for them to form plans, organize.

Corn is 11cents a pound. Or 6 cents a pound if underpriced. Vs $ 3.10 per pound. In volume, outstripping 2:1, not even including hazelnuts.