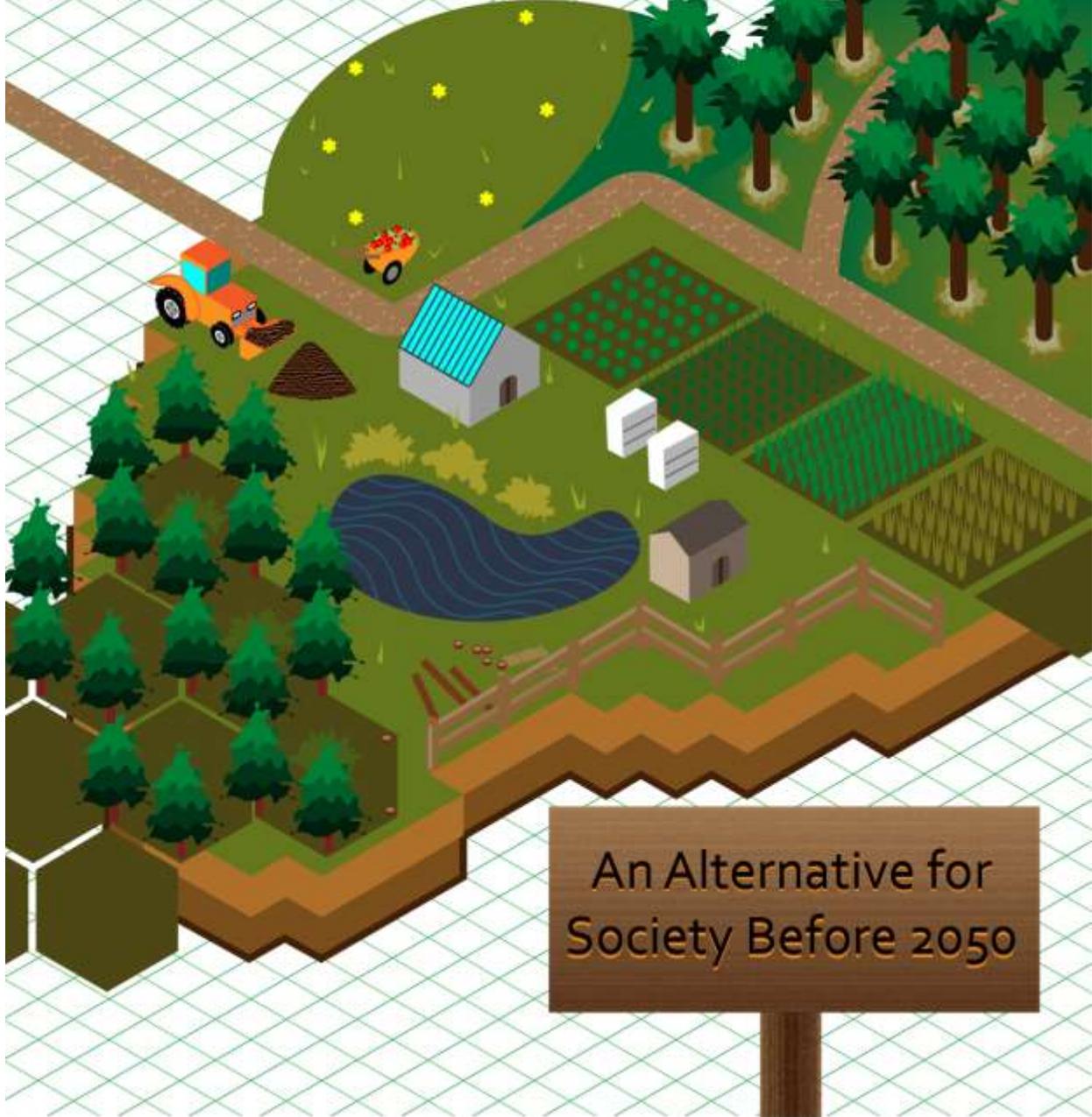


RURAL FUTURE



An Alternative for
Society Before 2050

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A New Farm Story

The following is part of Giles' dream, not real yet.

Fred has just inherited a 120-acre farm. He lives far away, works in information technology, has a family with a child in high school, and, though fond of “the family farm,” just cannot deal with it now. He contacts Rural System (RS) for “profitable service.” RS “rents” his land from him for \$1. They discuss a contract. Fred specifies limits and requirements for what he wants done on his land. The Entrance Quality index of RS, derived by VNodal, the computer “brain” of Rural System determines that his land potentials are high. Fred will receive about 40% of all returns (crops, fishery, forestry, livestock and other Groups). Of the rest of the gain, some is invested in the land, a small percentage in local communities, local worker salaries are paid, a percentage of Rural System’s debt is repaid, and RS builds and improves with the remainder.

VNodal produces an outline report, and a 7-factor GIS (Geographic Information Systems) map of the property. Fred responds to 15 questions posed on a PC, all processed within an expert system. Results are within the report, which is downloaded for a laptop. Fred is directed to link to RRx (a software unit of Rural System) Phase 1, where 7 business sectors are shown with links to a collection of 487 related total units with an introductory Internet presentation about services and effects. Based on that and preliminary general information about the area and the new owner, the Phase 1 report lists potential Groups (small businesses) for Fred’s study. The report will be the basis for discussions between Fred and RS staff and will lead to discussions about entering Phase 2.

Fred, environmentally astute, realizes the need for land to be socio-economically viable and productive of a large set of interrelated human benefits. He is sensitive to the community’s love of land, the several needs to “get away,” but also to increasing real-estate taxes and to job limitations for his soon-graduating daughter. He senses potential income from his new land, hears of unexpected income (other than from logging on a few acres), and realizes he can pay to move into Phase 2 or have that equivalent amount of money withdrawn from the first 2 years of returns from the Rural System Conglomerate, wherein all of the Groups work together.

Fred is asked to express future limits he might have to activities such as “no hunting” or “only family fishing,” or “no planned uses by others during the last week in September.” (VNodal can later estimate the profits foregone by such restrictions.) He is asked if there are areas for preservation or special protection, cemeteries, or old-growth timber stands with special memories needing care.

Staff of Rural System, The Land Force, visit the area for RRx Phase 2; make detailed maps and photographs; visit key sites, structures, road and trail conditions; and note conspicuous flora and fauna to be used as indicators of land-use history. Additional GIS databases are accessed (e.g., slope, aspect, elevation roads, soil use, erosion, geology, wild fauna species known for the county, endangered species present, and pond sites), system inputs are made, and a Phase 2 report is produced.

Shared with Fred, this RS production, so far, is only a comprehensive description of the conditions, constraints, and resources of the area, and a statement of the fundamentals by which the area is being restored, developed, enhanced, and managed. It stresses fundamental objectives, all indexed to corporate profit and that shared as gains for Fred and RS. Fred then signs for Phase 3, after receiving portions of profits from within the first two years.

VNodal notifies all Group leaders of select Groups, most likely to succeed by making significant cost-effective change in achieving stable, bounded profits within each rural region.

For Groups likely to use land space (e.g., fruit growing, mushrooms, agroforestry units, ponds, riparian enhancement, composting, future stables, and forest coppice), multi-factor GIS maps show selected, optimal sites.

All Groups have access to specific required GIS maps via VNodal, used to achieve their objectives of selecting crops and crop sites, building trails, expanding gardens, locating portable toilet sites, marking timber, establishing mowing patterns, scheduling pasture, making preferred re-seeding, building outdoor presentation areas, and developing sales media. The Market Group assists all Groups, especially after each Phase 3 signing.

A Modern Yards Project is started by 4 relevant Groups, primarily to reduce storm water loss, enhance groundwater, reduce mowing noise (Earshot), and fossil energy use (The Energy Group), with The Gardens and Yards Group. It plants flower gardens near impervious areas in former grassed yards, develops a small-version “Victory Garden,” and does garden-cluster marketing. It uses mob grazing (for soil nitrogen gains) by goats in mobile, electric-fenced yard areas, adds yard sculptures, and gains certified status as “fine fauna” places for diverse, year-around songbirds enjoyment. Its major financial gains are in intensive, modern forestry within the clusters. Many forest sites are “woodlot-scale,” but for large tracts stands are seen as populations within Alpha Units, almost tree-specific and managed based on site access, watershed and enterprise environment function, species and site concordance, carbon sequestration, age-related growth rates and profit gains, and units of “energy forests.”

Some Groups do not work on or utilize land products or even access the land units. Rural System is advancing a *Conglomerate*, and seeks to profit from all things legal, rural, and objectives-oriented within Rural System. VNodal itself will likely become free-standing and produce documents under contract. RuraLives, one Group, profits from soliciting, processing, storing, and selling the experiences and wisdom of regional people. Floats, another Group, similarly publishes poems from the region’s people.

Chapter Thirteen

You and the Environment of Tomorrow

History, in general, is sweeping and international, but there are specifics, nameable events and blockages. Rural System, as told in *Rural Future*, at best as seen later, is nothing more than an element of history. I've had good fortune, education, and health, and have read about and observed "rural" for over 50 years... a chunk of history. I've seen the rural emigration, hardly noticed, and I fear the unnoticed stress ahead in the water resource and elsewhere. ... And so, I've shared what I *know*—the only response I know for readers.

Why? Because, selfishly, I want you, the reader, to do something. (I'm an educator, committed to the idea that teaching is changing students' behaviors.) "All is related" is a message of this book, and thus, I encourage readers to find a part herein of interest and ability, a part of Rural System, and to work with three others of similar mind. Work as a foursome, together—a tetrad—for the future, using a systems approach with your specialties of knowledge and abilities... clarifying objectives, selecting or developing processes, and sharing freely your results. There is no time to gain perfection or wide acceptance before acting. But be open to feedback, perhaps, and pause early for "standback," because copying history can be a waste... or fearfully instructive.

The number of countries now suitable for high-quality human life is far less than 190. "High-quality" need not be debated, only discussed personally for needed, daily food nutrition for an adequate-size, predominately-healthy human population density for a country (we need each other for many roles—system operation and production, now and for the future). We can "size up" *our* country or *each* country, begin to evaluate our resources for our families, and then decide which activities and resources are suitable for each person... given that *war* is not and cannot be a successful strategy, by multiple criteria, to achieve (1) the water balance or (2) the food balance that we need.

Rural Future seeks an effective expression of continual change... toward assets for objectives, undergoing feedback adjustments and "present-adjusting" feedforward. Anger grows with unheeded warnings... that human populations do not decrease with increasing affluence, for there are two other old players in the game: worries over inadequate food supplies and stored foods... and the *imbalance* between human consumers and the *nutritious* supplies for them.

What's to be done? The enemy wears masks with two eye-holes:

(1) *water quality and water quantity* –

I studied radioactivity as a means to investigate pesticide spraying within a hardwood forest. I want nothing more to do with the threats and yet-to-be-discovered life in a world cast-over by radioactivity... and I'll wager safely that neither will you. "Water" is much too general a category of concern: acknowledge the dry sands, the frozen poles, N and S, the saline waters, the deep waters (some already pumped dry). "Quantity" is the problem of enough fresh water for people. "Quality" is a problem freshly presented in current household drinking water contamination problems in Flint, Michigan.

(2) *human food needs* –

I have proposed various *food production subsystems* within Rural System. We need to produce foods of optimal nutrition-value per gram, for “volume eaten” is no longer the criterion of success and survival.

Few people still listen or read; many want to *see* Rural System. Encouraged, I fear more and more that *description* of the doubtful problem or the doubtful solution has not and will be unlikely to work. A demonstration is feasible, one of the equivalent size and cost of a US “moon shot,” but without the construction or delivery risks. A demonstration with nearby access to Washington, DC may be in order. Investments are needed, not grants, and a system must be created for demonstration... then rapid expansion to curious and supportive groups... for the future is “now” and upon us... “rural” is next door to 190 countries.

Rational robustness is needed, for there is not much time left—no time for a best-test or perfection, no one solution. The one being proposed within Rural System and herewith is for a “single sample” experiment, *undergoing continual revision*. Readers who comprehend working together, realizing the parallels of ecological relations (the ecological succession and production functions in Chapter 4) will see that these, as elements of equations, worked together, will produce useful answers. Just the elementary parallels are needed first... that gradually can be built to describe and use the equations to progress *forward*, or to heed the message to: “Stop! Danger ahead!”

I’m Not Done!

There are good days and bad ones. Some, I suspect, may never end; others give hope for tomorrow. Some days whisper to me of the past, and I can hardly hear, surrounded by the noise of sculptures being destroyed, and recognition of heroes and successes being renamed. There’s noise and odors of places unknown, atypical, “artistic.” This is a bad day. The evidence of failed societies remains, desecrated. Past societies have left evidence, records, education, images beyond sculptures, loosened scrolls— “*once-talented, I existed*” —whole destroyed villages are found, with buried villagers and drowned hopes. Some days I start, tired, for I must sing the same song, tell the old stories, give the same warnings to audiences that I once knew well and felt membership. Now I am alone in standing, contentious crowds, wishing to sit.

“I’m not done,” said a departing neighbor at his bedside, and died. Now I have hope that I can perform as a wise friend once said: “Just tell the reader what to do!”

The order was too steep! I know my limits. I hope the readers will accommodate them and face the needs—specific and obscure—as best they can... with their education and diverse personal abilities. A unique situation may require a historically special convergence. There are things, very small (obscure), that can and need to be done from among the topics, tangles, and links suggested in this book. Some will be new, others providing service through well-known brute force... and most delivered in new combinations, new assemblages and subsystems— maybe tetrads—inventions and things static, now functional, and merging within the dynamics of the day... short of rainfall, long on war-clouds.

I’m almost done, at age 83 (2017 AD). I want you to get busy on improving things matching your strengths; build on solid grounds with the “bricks” of personal interest to you, to meet the conditions ahead. Attack the problems emphasized in this book. Form groups for mutual strength, as well as for lasting stability for the long haul, for the many important challenges ahead. I know now of your uniqueness; you know of my shared thoughts and

experiences. I hope that you sense “felt-change,” then use your new-found energy, perspective, and pointed force to create the future, achieving certified objectives.

Huddled together, I suspect we now know (together) the major topics for us ahead, sense the pain, recall the rejections, and readjust to the secret burden we now carry together: the secrets of the basic system. We standback and reflect in the glare of the present, gaining insurance to suppress sure failure ahead, knowledge that planned futures *do* happen... and unplanned ones certify past wastes and guarantee wasted futures.

Not subtle, I have real fears that we shall only achieve a desired future, an Earth-future, if we powerfully address the problems contributing to likely global collapse. The UN targets for work¹ are clear; we need *a human population balanced with a food supply*. Thus, we have a dominant task, challenging for *Rural Future* readers, to meet the various challenges within each of *over 190 countries* (some more stable in quality supplies and costs than others).

A similar giant challenge ahead is *an adequate quantity and quality of water for human populations*. Untold, large volumes are used and more are in demand, for all countries... some with unmanaged, unstable supplies for their people. And, Earth-around, people are leaving rural areas for the urban areas where water is demanded. “Best wishes for your survival and that of your children” is surely not your only wish, or that of your collegiate readers. Yet, “may you never suffer thirst” seems real—a timely, cherished greeting.

Rural Future exists now as a plan for future people, welcoming precise correction, improved recommendations, and creating new-found Groups that, together, may stimulate, or cause to be built, real elements for Earth.

Education is not for secrets-held.

But shhhhh. I’ve been advised that readers will not read or accept text that sounds negative or down-beat. [We’ve lost (used up) our grand USA groundwater supply; we’ve almost lost (*used up*) our available phosphorous supply, and our crops need it; salt water creeps into Virginia’s underground coastal water supplies (and people there seek fresh water, piped from distant, scenic Virginia mountains); Virginia/West Virginia coal, tossed like a rubber toy in current politics (the game), does not achieve its fundamental energy richness regardless, as miners move out, coal-layers depleted, leaving school houses with buzzards clawing off the roofs.]

Knowing what I know and have told you is very stressful, saddening, but I must share with you the grounds for my belief and action. Let there be no more gory future; no more threats, or claims of “fear-monger!” But also, let there be no more delays and words of “better times ahead,” or mindless “hopes.” Certainly, we need no more “God willing!” quips, or “the sun will come out tomorrow” songs.

Yes, the sun will come tomorrow, but our atmosphere must be cleaned. The sun’s all-out solar energy must be captured and directed, priority uses implemented along with energy conservation of all types, from interior home uses all the way to outside wall coloration to achieve desired “albedo” (reflectivity or absorption). Comprehensive improvements of energy use have been noted herein, and need to be part of the rapidly-changing resettlement of urban structures, from hot water for baths for children to energy for men and women, and for health. The time has come!

¹ Costanza R, Fioramonti L, Kubiszewski I. 2016. The UN Sustainable Development Goals and the Dynamics of Well-Being. *Frontiers in Ecology and the Environment*. 14(2).

No, the time has passed. We have more people now with elaborate resource requirements than we can sustain for long, along with a society requiring a high quality of life, now and for the future.

Reviewers have commented critically, sensing this may be another “sky is falling” book. No, the sky is *well-connected*, and I’d like for it, in all of its primitive and changing modern, basic characteristics, to become well-known and programmed for continued study as global changes *now* occur, frequently, ponderously, dangerously, and so restricting former freedom and future opportunities.

Perhaps an observer will find the challenge of mastering such complexity to be life-changing.

Granddad taught me: “There’s more than one way to skin a cat!”

Now I’m stymied by this idea of “many means to the same end.” I cannot tell you specifically what to do about the problems ahead, any more than I might tell you specifically how to win a soccer/football game ...or skin a cat... With regret, I think we have to do a long list of things—some micro, some macro, some gaining from your personal talent and our effort *together*. I continue with hope, in imagining and then demonstrating partial but growing successes. Such optimism may seem silly in the midst of war and current, Earth-around insensitivity. Objectives will not be clear, but they deserve major work... and must be area-specific when key resources run low.

Parent-based assumptions about help, protection, and future safety are said by some to be unsupportable. Organizations are not solving the problems because they are new, not yet organized enough, unsupported, and unrewarded for preliminary action.

Such action is all that’s left, it seems... vacant spots and hopelessness on display. Small communities exist, “hope” undefined, and none expected. “Tomorrow” is unknown, and “perception” is hopeless to be gained. By starting now, I believe we can avoid being just another failed society in the long history of such failures here, in the USA, and on Earth. What can we learn? Failure *is* possible, deadly, and expected.

We might be different, and at least delay the inevitable longer than have past societies. I think delaying is our *best* option. (Because of knowledge of the past, I reject the best option of a global commission on a new Earth strategy to avoid imminent global war... I surrender to piece-work.) We have to create our own, diverse community energy sources as rapidly as possible. Then, we need water resources—especially purification systems—for the water problems are *now* very real and increasing. Now we can (must) model our systems to show us our likely risks, and their speeds and sequences, for we already sense that the future is now upon us.

Now, we are aware that massive, critical action demands personal involvement and superior attention to the complexities of pending difficulties at a never-seen-before scope and scale. We see “equipotentiality,” i.e., equal pathways to the same destination. Which pathway shall we choose or tolerate? The equipotential is also known, but how shall we decide to select? I have to have been convincing, herein, that we have an enormous, unique problem rushing at calendar-speed... only a lifetime away before we face the consequences of not believing and acting on the content of this book and related, superior texts, unavailable to former populations.

Sustainability is so commonly used that few people can define it, and those who can never admit that they do not want to sustain the *current* conditions, projects, or programs, for they all seem to be failing in vital parts.

Local transportation is about to become (in about 30 years) minimal, along horse-and-wagon trails within clusters. We need to rebuild the “settlement community” of the late 1700s: a

common center, self-supporting agriculture, communal work, internet-based medicine, strict health programs, community education, intensive language programs, and “visits” outward to seek or build markets for all local people, and share successes. Already short of time, we need food, soon, *and for 50 million more people!* (There are only 350,000,000 in the U.S.!) (Locally, we import food; many other regions, worldwide, import much more per person than we do in the U.S.) Hope, alone, seems pitiful.

The muffled vibrations of that noise are:

- The labor supply is uncertain in rural regions.
- There are scarce and declining amounts of high-quality fresh water.
- Oceanic fish stocks and production are declining.
- Salt water now invades our coastal underground, its pressures reduced. Trees and people do not intake salty water very long.
- Coastal farmland areas for food production shrink with ocean rise.
- Confident phosphate-fertilizer supplies, essential for crops, are in decline.
- Energy-cost uncertainties discourage rural investments.
- Competitive invasive plants, animals, and related diseases loom large.
- Urban/commercial/residential development spreads over prime farmland.
- Genetic crop modifications threaten human production and consumption.
- Soils continue eroding and they decline in productive capacity for food crops for increasing human populations with increasing consumption.
- Nuclear warfare threats, if acted upon, results would contaminate all food, Earth-around. It looms large, a mystery no longer—certainty.

Wild flora or fauna do not even rank as being in a reasonable list of high-magnitude threats to world collapse. Threatened, ancient forests like the cedars of Lebanon will disappear before the last acres are used for trying to grow food. Goats will be notable livestock; efficiency and the need for their milk will rule.

We all must try to grasp a condition within the USA, for it affects thoughts about the future; in the U.S., 80% of the population is now in cities. The emigration is still a mystery to me; the rural-world “food force” cannot say quickly or loudly or enough: “Nation awake!” We will soon, before you know it, be out of food for daily needs... and our sources may be under attack, and polluted. Polluted or not, food-related attitudes, pressures, rights, and whole economies depend upon water and food-trends and available energy ... and waste is criminal when people starve.

Maybe “things” have been so good for me and for so many people that we could not learn from the past that the present is not guaranteed. Our present is not captured in our genes; it is not heard within bird-like rules, such as: “Make a nest every year, no matter what! Deny efficiency, effectiveness, future dreams, diversity ... *do all* as in your genes, no questions asked ... just fly; build one nest. Sing a singular song, clear and understood. That’s all.”

The needs are very great; every person, of all ages, is challenged (as in America’s war-years scrap-drives) to “do something, take part in the fight!”

There are millions of people, among millions that may be counting on us (you, readers and writers) to act. “Just do something!” And we are fearfully aware of the major clump of superior projects needed now for the dark future ahead, including reducing births, tending those born prematurely, increasing nutritious food production for all children (shapers of *our* future), reducing consumption, reducing waste and increasing its residual uses (reuse, reuse!), increasing

solar energy production and use, and reducing pest damage... *all at once*, soon, fast, even though production systems are out of balance... That's all!

I do not really *know* what to do; no one does. I risk readers "turning-off" to such a big problem...to such an admission. I do not know how to make it small, and if I did, that notion would only partner with the failure. I do not know how to stop wars among countries, while protecting or claiming food banks and cleaning reservoirs for their starving people and collective battalions.

Otherwise, we are now little more than a mine camp, a temporary exploitative condition for a bunch of people, soon migrants or dead. We are a temporary group, one small society that would otherwise have neighborliness, trust, sharing, learning together, stable marriages, politeness, diverse ages, and a place of creative work, with each engaged in their real place of stable, adequate, built resources.

"I'm not done," but I sense clear limits now, at age 83. What to do, and some processes as to how have been suggested herein, and I hope for groups of people that will create the systems and duplicate them for the future Earth, which has amazed me and given me and my family life. I hope the reader will take with them the messages for long, enhanced life, and the elements of continuing life within real, lasting constraints... some natural and more self-imposed and decided.

I so wish to learn from readers, to meet with people who can see a means for funding a Rural System or equivalent startup, approximately as described, dodging re-titled "ecology projects" and "sustainability," and working with inspired people who have comprehended the wholeness and computer power needed for a solution. An improved design, soon, will be useful.

I want action for benefits and normal longevity for my family. My want is selfish, but consistent in interpretations of nature. I want people to be reading and studying now, for there is little more time to read, create, and market solutions, Earth-around. A few great solutions will be consumed, over-weighted in importance, hailed as rescuer and survivor, over-grazed, over-exploited, and subject to crowding-stress... among the starving and cold.

Richly endowed, repeating in unison: "to whom much is given, much is expected." I now ponder one among many resources: classic soil richness, as sand falls between my fingers. I know that water costs more than can be afforded (in energy-coin) to be cleaned. "Pretty" costs 1,000 times more energy in the city than "anti-ugly" costs within the countryside. Few know the countryside "look" any longer... and do not seem to care... for today is tolerable and tomorrow is a nest for someone or something else to build.

"Urban" is nest-like. Gambles about food and water sources demand instant payoffs. We near an end that is not of our choice, but made of our neglect. We ponder in pain, and remember learning that education was once for today and tomorrow, for encouraging people to avoid past mistakes and limits. "Preparing" was for the future, using past discoveries and accumulated knowledge, inventing for fun... but especially for social good. Most all work was done for *social* good—the person, the family, the groups—small and large... *together... on Earth*, interrelated by elected governments, and aided in time by police, soldiers, an informed citizenry, and insurance.

Many people now know Earth and its scale and limits more than any past Earth-folks.² There is more abundant and better-recorded and presented information about the present and past than ever before. There are projective, probabilistic computer models that (unless rules of nature, such as gravity, are violated or suspended) mean we *know* what will happen in the near future.

We name the major parts of our world and realize that they are what's in VNodal. Yet, the "joins" and bridges seem obscure, fog-hidden. Our rural lands, more than "dirt," have social, economic, environmental, political, legal, historical, administrative and other working, living characteristics. All aspects are "organs" within struggling life forms.

Now, in days near the last reading of the last chapter of this book, I'm challenged by reviewers, even my daughters: "Dad, now that you're 83, what do you really want for Rural System? You've been at it too long. What do you want us and the readers to do?"

I am completely perplexed by their question. I have seen the answer: "Probably not!" I see no probable solution, given the power of forces involved and the eminent collapse... so I must:

1. lay it aside,
2. do something (thoughtful, planned... however ineffective), or
3. unite in someone else's action, despondent and suicidal.

I choose #2. The climate-change or Earth-change problem is too big to face, and must be left to others... but "others" may not be found—never previously identified, never a folk-story told. We need a superhero, one beyond comic-book extreme.

We can hope, as we expect, for many organizations, small and large, to attend to large problems (and we suggest rewards herein for such practice) ... or else we must face and tally the equivalent losses. Collapse of civilization? We can avoid it; we won't! There's no counterpoising law of physics. Nowhere is the scope, diversity, and flexibility at work, with staff abundant enough, funded, equipped, or prepared for the speeding Earth-force, asteroid-like, oncoming global changes—those climate-based, and food and water shortages for a growing population.

There are hundreds of acts within which individuals may become involved to slow or reduce the perceived stressful food/water/population imbalances approaching rapidly in 2050 AD.

My respected advisors say, "Just tell us what to do!" At the personal level, I can, but I fear insulting your, the reader's, intelligence, by suggesting to not waste water or food, or to not add pollutions to your yard or cut grass too closely. I can suggest you encourage songbirds, beautify your yard and gardens, stop excessive energy uses, and recycle all food and organic wastes—all actions apparently quite personal and small, semi-trivial—and then advance and engage in the more general activities for neighborhoods and areas... whole counties and states.

I just cannot specify from such a list what's best for each person to do, for it depends on their support, knowledge, funds, and time—their personhood—as well as their environment. People are further influenced or limited by the environment of their affiliates, friends, co-workers, partners, and special "others," such as available experts for consultation about special sites and proposed practices.

² A significant paper makes that message as clear as it can be made:

Ehrlich PR, Ehrlich AH. 2013. Collapse of civilization: can we avoid it? Proc. The Royal Society B 280, 20122845. Available from: <http://rspb.royalsocietypublishing.org/site/misc/perspectives.xhtml>

I learned, poorly, long ago, that “good advice” is active and well *given*, but the receiver must *take* the risks that accompany it. What I want you, the readers, to do is to work toward achieving the objectives of Rural System.

What I must tell you, or somehow show you as I have tried, is how to achieve annual profits—for a dynamic, long term (150+ years)—including a diverse supply of nutritious food, water, diverse structures, and energy resources from rural land and waters, while also achieving high quality-of-life index values. These values include individual and family financial stability and wellness, productive studies, high or positive recreation potentials, defenses, diverse access to services, and an expansive regional history. I must share with you a base plan for a regional, startup Conglomerate for 8 to 11 billion people on Earth by 2050 AD, starting now in 2017.

There are not as many personal-life years as you might think until 2050 AD and so, whatever we decide to do, it probably needs to be presented with an attitude of emergency, or perhaps high-efficiency, as in planting a field of blueberry shrubs for wine; it’s time to get started for a taste that is in the future.

I’d like for you to realize that your loved one’s farm is a wonderful thing, nearly precious... so much so that you and others around you might gaze with awe and appreciation, as done by visitors looking at vases and objects in internationally-famous museums. You probably know of, or have seen on TV, the modern mechanical monster marvels that now magically produce grain for our needed breads. *Those* owners are not leaving their farms for the cities. [Perhaps forgotten by readers of *Rural Future*, this book is largely about *absentee land owners*, swarms of them having left their rural areas for the cities. (This is still a surprise and challenge and wonderment to me, because the rate of specific food and supplies from rural lands and waters must balance with specific, recently increasing urban people’s food and water consumption.)]

“Realization,” here, includes learning about diverse rural life, culture, and productivity ... and its potentials, now and soon. As you may detect, the present changing conditions sadden me, but I see bright, exciting, clogging-music kinds of potentials for people, pastures, and profits on the horizon. We have to encourage, even demand for the social good, superior urban management—a critical application of “urban ecology,” as we deal with the rural-urban borderland.

Already, residents have aged into human sub-populations with no information (none!) about farm lands or their sources of food or water, or even about mega-topics on which they now vote in ignorance of residence. Even assuming that the people of rural lands know and understand their lands, nevertheless, global economic and political changes and conditions will not, cannot work for the state. Neither can such knowledge be sufficient for the remaining rural people, or for supplying the newly-settled urbanites. Rural System becomes essential.

Boil it down! What do I want readers to do? I want you, beyond wonderment and anxieties, to:

1. financially support Rural System advances;
2. lease your land to Rural System, if you are interested in your land becoming one of the described ownerships within Rural System;
3. stay informed of Rural System’s planned, ongoing reports and knowledge units from the Rural System website and blog (www.ruralsystem.com);
4. help with advice and action in getting local assemblies to form, perhaps those already committed to global economies and ecological work at a grand scale;

5. teach others about new or novel approaches to project and program developments that might carry the Rural System messages forward; and
6. try to make it personal, that *immediate* and *new* are more important now than past disagreements, slights, and individual pique. *Time* is now a real enemy; win-or-lose is decided in 2050 AD.

Or, just actively select and implement (with personal or group expertise) one or more from the following options:

- Study this book, and work actively to conceive and develop a personal or small-group strategy (now or after advanced education) to improve or build a major part of the rural future in your area.
- I see a few people and small groups achieving great results. I hope that you will unite with others, and pursue yet-unseen, perhaps untested strategies to achieve the needed changes for your nation, perhaps as demonstrations for others, Earth-around.
- If you are a faculty member, a public health official, or a student, willing to work freely on one or more of the Rural System topics within this book, please get started on a project, and contact me for more ideas.
- Maybe you are already “into” all the dimensions of action suggested as needed herein. I regret any oversight of your successes, and will try to announce your progress (as I get Rural System well-implemented). Share with me your locations, or staff of projects, with Rural System concepts well-underway.
- Make a tiny start: graph the general system (Figure 1). Agree on a small objective, such as “plant a dozen trees at an urban border.” Study the parts, and write about the losses and gains for the future. Were you successful? I hope to continue the Rural System blog, in which I may share your results... and our continued plans for Earth.
- I’ve referred to needed books and other resources (and I omitted many for many reasons—the resources behind some of the Groups I have planned are vast). I work toward building the Rural Knowledge Base (RKB) for the work ahead. Write to me; share with me in a growing library and documentary of ideas and interests.

As in getting married, I deeply fear the negative to: “marry me.” I fear the conclusion, herein, and I want you to join me and other readers, and to start immediately. Please, work toward your personal best. I invite your additions to this file, and what it will do for you and the groups with which you work. We’ll move toward opening, for you—an entrance to a grand display of meaningful, essential work underway.

We can send you a booklet on our plans for work within the Virginia piedmont region, a new project concept intended to address social and other, very diverse issues facing the people of the historically tobacco and cotton areas, facing new lives within the vast, piedmont borderlands of South-Central Virginia and Northern North Carolina. Only if protected very well, made clean, and marketed uniquely can this “now-defunct” region emerge as *the* food source for local, healthy people, and for superior food export to address nationwide or even Earth-around needs.

Gaining the Well-Developed System

I implore you and colleagues to apply feedback with correction and emphasis, related to the imagined corporate dimensions of Rural System in the near future. Study, vote wisely, comprehend the rural complexities of gaining and using food and other resources, and visit rural and border areas. Revise the current Rural System concepts and premises, and continue developing descriptive and functional units and system components within VNodal.

Stability and innovations are local, timely objectives. Make special emphases and acknowledgements, for they are needed for knowledge of effects and expectations, affecting, for example, rarely-used *sequence* phenomena in social, ecological, and business systems.

The International Role

I failed to study for the international role of Rural System, and to add a select group of insights needed for Rural System to be moved into open countries. Major nation-based war now seems inevitable to me, and will likely be closely related to resource-available areas, to water production, and to changing healthy-human birth rates, categorized by national sectors and urban sub-sectors.

I see now that we must move past *local countries*, and gain expert advice and help in comprehending the predictions of world food and water crises in *country clusters* before 2050 AD.

Rural System must be re-conceived and planned for dynamic nation-states, for they are always (it seems) on the verge of initiating war as a “solution,” however narrow, minimally as a means to reduce local food or resource shortages of several types. In *Rural Future*, I described the beauty of “rural clusters” and their potential for the future. Failing Earth-scale description, I did not address the dynamic relations of nations—some with and others without food or water sources. Many are in monetary wars, some are naturally resource-diverse, and clean water sources are all variously disadvantaged or changing. Few are comprehending the carbon budgets needed within each country. Such budgets are now affecting country waters, wealth, and high-quality food supplies for humans and livestock.

We probably have sufficient “war-history” to construct an anti-war plan, and to find the approximate rewards to offer people to retard significant future losses of regional human health. I cannot hide my skepticism!

It’s not very praiseworthy to greet “a catastrophe” land forecast with problems as diverse as any “biodiversity” estimate task. I knew it was coming; why was I not only not prepared but also had no descriptive words for the years past 2050 AD?

Perhaps another time in another book... but today I see, for the survivors, continued stress, high mortality, and success among military forces, scouting and outdoor groups, taught survival skills.

Everything in our rural areas are related, and these relationships are dominant in what we select for work. In the era of survivalist communities, we are limited, fully constrained by inferior water, difficult to get, and inadequate food, especially for the children, some now already at rest... forever.

Financial Source and Support

We know we cannot hand-off solution actions to industries, business agencies, or non-profits. More than “help” is needed; more than country-based curatives are needed. A new corporation is needed, one like the Conglomerate planned for Rural System. That Conglomerate

holds an answer, but perhaps it is too much to think about and worry over in this emerging pioneer stage.

Readers may help secure start-up funding for Rural System. As described, 7 million dollars is needed for the first 7 years, as a line of credit to implement VNodal and the first 50 interrelated Groups. Profitable status is likely to be gained in year 7. We shall clarify our objectives, establish leadership, continue staffing, rent land, form and combine Groups, and achieve first-order successes.

My request for you, the reader, is (with a company, group, or as an individual), to invest in Rural System for a few years until it is self-supporting and advancing daily within its stated objectives, first in Western Virginia. Perhaps you will continue investing, as Rural System begins expansion to South-Central and Eastern-Coastal Virginia, with nascent work on exporting the demonstrable, variable, functional system to adjacent and welcoming areas of the nation. We hope to then expand the ever-improving, feedback-informed computer models for inviting nations.

Significant, large, well-protected demonstration projects in each of the major human food-production and water zones seem like needed minima—exploratory, demonstration-scale action. Evident, modern problems with carbon-dioxide levels will require expansive test applications of our best current knowledge of air pollutants on plant food-production systems. Several major companies can hold or gain international prominence in Earth-success branding, by creating demonstration areas for combined Rural System Groups displays, demonstrations, and small-population survival.

Objectives will not be clear at once, but they deserve major work (feedback)... and must be area-specific. If they aren't, when shortages occur in areas, invasions and human predation will be called "war."

A union of ecological experts with their existing software might "coalesce." The problems have. The pests are watching. The schools question their questions. Now is the time (let's not debate) for widespread clean water and nutritious food for Earth's children.

Having seen ignorance and having seen "changed behavior," the basis of modern education theory, it seems feasible to use specific processes to achieve stated, measurable objectives for human survival... at least in large areas and for their people. We concentrate on education within PowerPlace, and wish for past insights that might prepare many of us for the survival-tasks *now*, and also very soon.

I was a child at the beginning of World War II. I collected waste paper, "tin-foil," and scrap-iron for the war... so I know it is possible to involve people in massive projects at the micro- or personal scale. There is a large set of Earth countries heading for war-like conflict over economic and political survival by 2050 AD. I write this year: 2017AD.

Regions and Nation-States

I've never aimed too high; I have met critics of past "dreams," and yet I know people who have been successful at implementing such dreams (as in system "standback"). Not a predictor, I appreciate the several computer statistical packages that help me see the past clearly as I try to understand it ... and use such analyses in tomorrow's decisions about money, crops, populations, crime dangers, and likely equipment use.

It works! Computer-aided systems work, and others make decisions based on data ... from the past. To "make decisions" is to take constrained risks. Computer analyses of "the past," while using many other factors and techniques, can significantly increase decision power,

improve timeliness and location selection, and reduce losses and costs, omissions, and failure rates. There is evidence—it works!

In the light of such enthusiasm, I also gain awareness of the darkness of computers, the limits of statistical power and the systems-approach (even its enemies³). I've studied, programmed, used computer programs of several types, and I understand system performance. I've faced the critics of such systems' work and fully expect criticism of elements of this book.

I shall not retreat to the “how do we know” unit of this book (Chapter 5), or to the difficulty of describing what “to know” means when it is achieved, by what criteria, and what you or any specific decision-maker will find acceptable or tolerable for decision-making (typically involving personal risk, matched with unknown risk).

I can't *know* the content of this book, only proportions, only stages in change, only after current impacts ... only reasonably when making best-estimates or approximations, and being aware of constraints and limits ... of estimated, changing, and well-modeled probabilities. The doors seem wide open for effective use of GIS for rapid changes needed for the geo-spatial-temporal units of the near future. Using GIS abundantly seems like a good idea.

A major parallel: I do not know whether the proposed Groups sketched and listed in Appendix 1 will “work,” or become profitable. Some have not been implemented, offer no “ideas from experience,” or will work only within the right context (not each one instantly, but within designed units, often in tetrads).

I cannot prove Rural System “will work.” I am challenged by the meaning of the phrase, the expectation, the measure of required success, the listed components and Groups, the duration ... the annual dynamic of any probability level. I want you to critique the text carefully, participate, and begin to implement it, hopefully with others, growing it into one or more useful, profit-based, commercial corporations for the public good—now and rapidly, smoothly, before 2050 AD and afterwards, without cease. I'll try to be helpful and continue investing, but time is now my evident enemy. I wish you great success ... for the good of us all.

I try herein to summarize key points, wishing not to destroy whatever ideas, connections, and innovations might have emerged within you. I'd like for you to know my list of things you may have learned, and/or need to do:

1. How well-off we all are *now* needs mending and attention, and a sweeping awareness of a potential “good condition” is needed—the objective.
2. Studies now available tell that human population size and its increase are correlated to monetary “richness”; the greater richness for people, the lower the birth rate. We need universal awareness of the need for rational, humane human population reduction to levels that can be supported on Earth. Planned, healthy children must be encouraged, being born into homes of healthy, educated, resourceful citizens with high future life prospects and a role in society... but not beyond Earth-capacity. The energy required for population growth on other planets is unavailable. Birth control, by legal diverse means is needed, yet unlikely. Death procedures are intolerable; population expansion is also intolerable... for adequate food and other essentials will soon be unavailable... resulting in intense local wars of acquisition... and abundant, highly-stressed societies.

³ Churchman, CW. 1979. The Systems Approach and its Enemies. Basic Books.

3. What to do? Stop thinking such thoughts alone, for there are not enough kindly psychiatrists, or clinical psychologists, to respond to addiction-related helplessness, especially if you are (or once were) parents.
4. Start thinking about desired local social conditions, targeting 2030 AD (water quality and quantity limits) and 2050 AD (food limits).
5. Tend the coastal children of the world, as ocean boundaries change, saltwater encroaches, and coastline vitality is threatened. Oceans, beyond comprehension, can be managed— subsystem by subsystem.
6. Work toward Rural System, for I have no other significant alternative.
7. Develop water capture and local filtration, since atmospheric water may become the least hazardous to collect and use. I am nearly certain that nuclear proliferation will now occur, and there will be known isotope consequences, those forgotten and now unknown, some derived and others hidden.
8. Develop small-animal meat sources, with rapid growth and low contamination.
9. Learn to manage a solar energy collector for low-risk, regular family needs.
10. Develop healthful, well-protected energy and food reserves. Re-evaluate energy sources and savings of all types; protect future sources from theft and destruction.
11. Watch wild fauna, because “all” will change and, together, the behaviors of birds and beasts will suggest the latest, best conditions likely available for average, observant citizens. The morning electronic note to a neighbor will become as natural as the new morning “coffee-talk” (soon to be a local plant tea), sharing observations of the local tree bud-burst, snow tracks, or feeder visits (phenological studies).
12. Cynical and skeptical of conventional education effectiveness, experts in national crises will likely invent, soon, a chess-like, total-environmental computer game, with widespread appeal and monetary pay-off for experts “winning,” i.e., achieving international survival and quality of life. (For several years, I used my brief, programmed game in classes, the objective of the game being to stabilize the shrimp population in a coastal estuary.) Trivial-seeming, teaching the world-game is ahead, and may be helpful to some in crisis.
13. Declining social infrastructure will be noticed; it was “put-off” for solutions by future societies ... and now “we” are “they.”
14. We must not just be anti-crime, but pro-wellness, pro-wastelessness, pro-justice, and energy-attuned... the societal elements will become evident and actively discussed, because long-term society must become part of the national conversation for cost-effective life and survival. Every child must be in a home with hope for a rich, future life... all able to discuss with meaning for the future. (“Rich,” as in, minimally, no longer suffering adrenal-failure and crowding-stress.)
15. It’s now time for information on each major Rural System topic to be readily accessed. We must find and expedite access to topics to be placed into decision-aiding software— survival apps, the new Extension Service—to advance the systems needed.

16. A Virginia demonstration may be useful, moving simultaneously from Western Virginia to Southeastern sites (southern conifer forest and once-tobacco land), then coastal sites (encountering salt-water intrusion at the coast and continental crop-land).

I beg of readers to get busy ... for our, *your* sake! All of us! Recruit owners, hire and assign staff, get many key Groups started, especially those serving all of the other Groups. (We know they'll not appear to be productive in their early stages of development.) Achieve your stated objectives, nothing else. Draft a plan for expansion to the mid-Virginia region, no more, yet, just a plan. Describe *a plan* for expansion within the Washington, DC area. Build a staff and a minor demonstration in the Southwest Virginia region within the first 2 years. We want all investors to understand, fully, the need for a *basement* to this thing, a system of systems (and to understand that minor, net positive returns, likely within the first years, will be used for development and growth).

In addition to timely releases of Rural System staff successes, we'll show annual reports, tours, and prominent on-site displays of our participation in the origins of Rural System and its successes. We'll be pleased for you to inform others of *our* contributions to the successes of Rural System and associated gains, and potential parallels and isomorphism of important, productive rural land and water. We'll be debt-free and very busy, adjusting to regional differences and climate change, also to land restoration, and to adding new tracts as emigration continues.

Flower and food exports will emerge from tall-tunnel, greenhouse-like structures and cultured fields, with paths through agroforestry carbon columns. Superior goat herds will supply milk and products for urban centers (as well as attractive weekend tourist events). New approaches to farm fisheries, recreation, food uses, compost, and nutrient application and sources (e.g., phosphate) will be explored. The unique elements of the regional topography, including soil and geology, will focus attention to regional museums and generate profit with broad education. PowerPlace, first developed for Western Virginia, will become a sharing, mutually-beneficent educational force in rural regions. And, at last, over 150 planned Groups of Rural System will be developed among local people.

An alternative drug addiction unit will explore contacts throughout the state, including new programs at Virginia Tech, community action, and with emphases on job growth, purposefulness-programs, and project action. As in Western Virginia, the elements of the book, *Rural Future*, will be on display and in use within key Groups and projects: diverse exercise for staff and visitors; attention to forest knowledge; carbon sequestration; walk-through gardens; flower-export gardens; medicinal and cosmetic-plant gardens; pond fisheries and contests; dog parks with energy units; camping/hiking for girl and boy scouts, families, and other groups; and multiple, small amphitheaters with programmed units by school theaters and art centers.

We may feature educational and "special" evening flights of bats over pond units, evening butterfly experiences, earthworm density discoveries, and insects of the tall canopies... as elements in an entomology program, to expand, share, and describe the entomological diversity of rural regions for students, visitors, and publications. In aquaria and terraria, we may display the fauna of the lands and surroundings, and explore fish exports for guests and the greater region.

"Excessive-sounding" to some readers, the proposed work is that of developing—for all who wish to become a part—a *diverse rural economy*. I want you to join me in starting a regional company, expanding with hard work to improve natural resources, make money, add employment, and stabilize it for healthy families and communities within Western Virginia, for

later expansion. There is a crisis in the farmlands of Virginia, as farmers age and move. Farmers need new ways to deal with farms, farming, and the total environment of Virginia—all, soon, smoothly, uninterrupted... almost a revolution.

Virginia has about 47,000 farms and we, within Rural System, need to work with at least 20,000 of them to contribute to farm income and the welfare of Virginia. I want to talk to the absentee land and water owners. There are half as many farms now as when I graduated from Virginia Tech. I want Rural System to work for them, and to bring about 260,000 acres into lasting profitability and superior, modern management.

A few lawn owners that I know say to lawn companies, “handle it, handle it!” (the whole grass, soil, water, and pet thing). I want many people, especially the absentee owners or others at work on other projects, to have Rural System handle it!

We can build the “brain” of Rural System now. The brain, VNodal, will present a prescription for what needs to be done to meet owner needs and limits, to achieve a list of benefits... and pay the owner for gains achieved toward profitability. We’re at the verge of having no more average recommendations—no more “teaching” you about your land (for within computers we have built a growing knowledge base). Now, a computer-produced prescription (with your constraints and limits included) can be used for a payoff. Help me to convince many absentee landowners to bring their lands under our precise work... achieving profitability and restored land for the people of the future.

A Future, Just Any One

I’ve tried, but I fear failure, not of itself, but the results. I write to convince people of the Virginia region—and hopefully the USA and abroad—of the immediate needs for action to prevent the collapse of society likely by 2050 AD. I fear failing to stimulate the creation of several small Groups, to work actively on changing rural conditions for the near future and creating the systems described herein for immediate action.

I once wished that there was one way to solve the problems of human needs that I see ahead. I know there are effective skeptics and hero aspirants... free to be aloof and positively uninformed, never having stood in line for happiness or survival.

I “delay” raking up leaves from the yard, but that is not the “delay” of not preparing for the future food and water needs for my family, or for funding a responsible organization with which I can work to implement, direct, and develop active elements within 190+ countries, as we lurch toward thirst and inadequate clean water... even to enliven the crops for our now-hungry children. We now selfishly lower our own quality of life, as if residual amounts after atomic weapon “testing” have no effects. “No known effects” is the specific designation for ignorance present.

“Tell us what to do,” I’ve been told. I won’t now, for you are too special, unique, and within your selfhood, you, personally, will find the serving action, right name, right amount, situation and sequence... for you. I’ve tried to suggest solutions, some small ones in an additive role, others highly social, others highly electronic or mechanical, and most requiring surrender or delay in test runs... to gain rules and combinations for the future.

Now we must, as never before on Earth, tend-well the children and respect-well those who understand the collapse of civilization. We can work together, and use procedures and concepts for stabilizing low amounts for food for carefully-social, carefully-fed, assiduously safe, and energy-wise citizens... of all countries, as friendly neighbors... for it is a small Earth

with large, polluted oceans, and limited land for a yet-growing human population (many members of which cannot read or understand modern “crisis” or “collapse”).

“Tell us what to do,” I’ve heard again, several times. I don’t know; only you will know... later. I stumbled over the title, “*Rural Future*,” very early, in the Rural System elevator speech. The book has been about Rural System, but also about the past and present, what *can* be done and what *needs to be done*. But, do only what is “right” for you and your family, as you learn together about rural history and perceive the difficulties likely ahead... but hopefully with inventive courage, and responsible, effective action for *all*. We all will struggle. Those who struggle less will discover historic roots in access to abundant water, energy, human knowledge, human strength and ingenuity, social skills (leadership and group-forming), and access to transportation... all known from history, now re-suggested for Earth tomorrow.

We just have to create a new foundation for a working system, soon—one evidently full of happy, story-telling, dancing people ... sharing and working through it all, again... after 11,000 years when pre-settlement people slid off the Eastern Canadian glacier, ate passenger pigeons, chestnuts, box turtles, frosted persimmons, and cherries, and rode horses in the coal country of Virginia.

What to do? What is the best action for you? Of high value will be learning about yourself and human history—Earth-around—but with local intent and analysis. Evaluate your strengths and those of the modern family, it having changed or emigrated. There are elements of the systems approach, very relevant to the new city as well as the arms and areas left behind. We need Rural System very personally, a new corporation devoted to its system objectives of:

1. Achieving and enhancing the history, beauty, and future estimates and interpretations of the rural region;
2. Generating meaningful human work with appropriate payment for such work;
3. Stabilizing and building the strength of small rural communities;
4. Improving lasting natural resource restoration, enhancement, management, and designed profitability (long-term and bounded); and
5. Conducting studies as needs are discovered.

I have only a few inappropriate words, associated with beneficent, altruistic comments about Rural System. It is asocial, dynamic, likely having small failures and “over-looks” that will be called “personal-slights.” I and others will never survive the diverse wrath of the “scientific community,” topic-aligned-individuals working with fervor on their perceived system parts, for which I give praise and recognition where possible. I never intend slights or oversights.

I see a future, and I’ve shared in this book what I see. More than “just a book,” or another claim “written in the wind,” I’ve worked toward an understanding of what people face in the near future. I’ve tried, compelled, to understand—for good reason—what’s ahead, for my daughters, and all other Earth’s people, as they find or make their place. I write from my history, age, studies, experience, concern, and confidence. I write in modern technology and willingness to share what I have to offer, for an extremely large, complex, intended *mastery* of Earth’s places for people. Warned of over-confidence, over-generalizing, and overlooking small, pivotal points of history and shared knowledge, I now seek the rationale and answers from helmeted-risk-takers for rejecting the global risks ahead: too little managed water to sooth the hunger pains of inadequate foods. People, in pain of all sorts, deny “high quality of life,” easily discussed and difficult to define.

I suspect that, more than reasonable, *survival* is a first-order criterion for people. It can be rushed but must now be planned and scheduled by the means I have shared with you. *Rural Future* is now here for *our* future—all of us, for the whole Earth ... since few in the past have had the resources or reports for tests. We have vast histories, libraries of thought, studies, diverse Earth experiences, images, and a world of computer power for real solutions and preparation for the future Earth Society, with only one key shortage: *time*.

Be brave; be kind.

About the Author

While many Americans are presently astonished at conditions in rural America, Robert Giles, Jr., Ph.D., has been working tirelessly for decades on planning solutions to interconnected rural problems. Dr. Giles is a Professor Emeritus of Wildlife Management at Virginia Tech where he taught for 30 years. His Bachelor of Science degree in Biology and Master of Science degree in Wildlife Management are from Virginia Tech. His Ph.D. in Zoology is from The Ohio State University.

Dr. Giles was born on May 25, 1933 in Lynchburg, Virginia. He attended E.C. Glass High School, during which he was awarded a Bausch and Lomb Science award for studies of the ring-necked pheasant. As an Eagle Scout, he was awarded the W.T. Hornaday National Award for Distinguished Service to Conservation and the James E. West Scouting Conservation Scholarship. During his undergraduate years at Virginia Tech, Dr. Giles was an editor for several magazines and the president of the V.P.I. Corps of Cadets of 6,000 students. He was also a member of seven national honorary societies.

During his time as a Professor in the Department of Fisheries and Wildlife at Virginia Tech, Dr. Giles was known for his innovative applications of computer programming and Geographic Information Systems (GIS) to land management questions well before such skills became standard practice within the field (and before GIS was a term). With the support of the Tennessee Valley Authority (TVA), he created the woodland resource management system of TVA, once used on 300 farms a year. With staff and students, he created the first wildlife information base (BOVA – Biota of Virginia database). As chairman of a local planning commission, consultant to the National Wildlife Refuge System, aid to the State Cooperation Commission, consultant for Wintergreen and several realtors, and as a landowner himself, he has developed a unique and alternative perspective on land and its management. He wrote the first plan for wildlife other-than-game for Virginia.

Dr. Giles began working on the Rural System concept in the early 1980s, but did not begin in earnest until his retirement in 1998. When asked about his aims for designing Rural System, he said, “I am now convinced that a superior demonstration of modern comprehensive natural resource management is badly needed and is now possible and most likely within the context of a new corporate rural structure. I do not want to do research. I do want demonstrations of the results of literally millions of dollars of unused research findings. I propose to bring all the power of the computer that I can to realistic and relevant use for parts of the region. This will include using that power already achieved by investments of resource agencies. I propose a system, subject to the law and to reasonable issues of cost, propriety, and community acceptance, that achieves such objectives.”

A colleague of his once said that Dr. Giles can come up with more ideas in an hour than most people can in a lifetime. His creativity is exceeded only by his humanity. Raised in Southwest Virginia, Dr. Giles knows the struggles of people in Central Appalachia, impoverished after the collapse of coal and tobacco industries. He has visited rural areas of Africa (Nigeria, Senegal, Uganda), China and India, and is well-educated in the sufferings of people in poverty worldwide.

Dr. Giles is a systems thinker. He believes that the problems faced by environmentalists and those of interest to humanitarians are interconnected, and that a system of problems must be met with a system of solutions. His career, his values, and his innovative capabilities make him

uniquely suited to tell the story of how a for-profit systems approach can best solve the rural problems of a progressive, capitalist society.

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