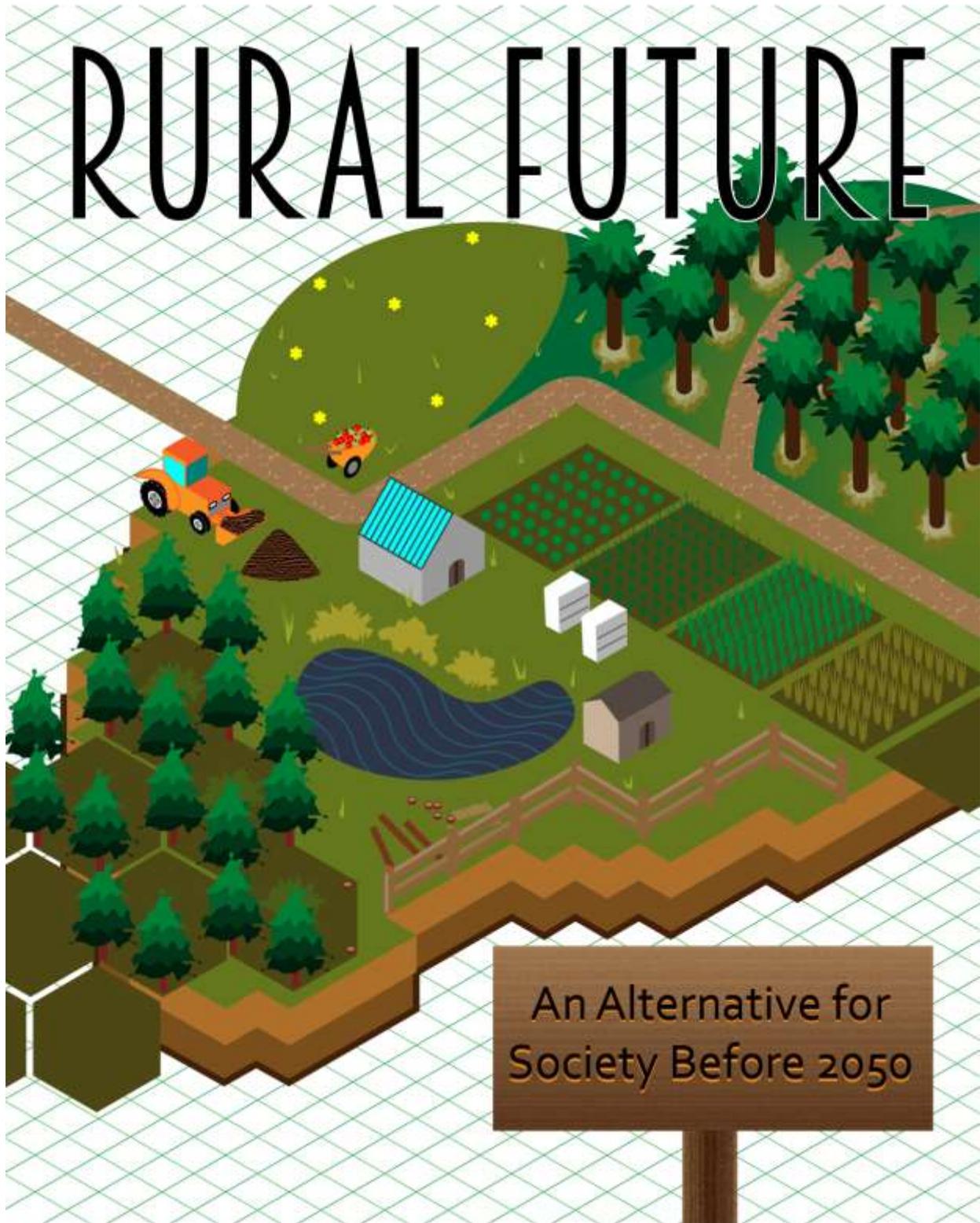


RURAL FUTURE



An Alternative for
Society Before 2050

Rural Future

An Alternative for Society Before 2050 AD

By: Robert H. Giles, Jr., Ph.D.

Edited by: Laurel Sindewald

June 2017

A Trip to Granddad's

Many people have demanded: "What does Rural System look like?" Imagining a trip to a Rural System area, one of Granddad's farms, may be easy.

Each contract-leased ownership has a new sign developed by our Marketing Group, backed by large wooden carvings, and the now-smoothed-road has a gate with a quaint gatekeeper, beside a road-panel that generates electricity with every vehicle passing over it. The gatekeeper collects fees from visitors and suggests memberships in Rural System Groups pertinent to their interests and expertise. Information about the ownership is available in the nearby store. A sign reading "Arboretum 3" is adjacent to the road, connected to similar tree groups, identified by little signs with a much-used, wide trail running through.

As bird watchers tally birds seen, the Rural System Arboreta members tally tree-species seen, and Rural System has developed 24 species on this ownership, catering to its concepts of diversification, adequate scale, and developing unique outdoor activities and contests. One young man comes from the dark trail, evidently happy with the additions just made on his list. A family cemetery is up the road, past two gardens. A booklet of family and neighborhood history, prepared by the RuraLives Group, is available at the roadside sales kiosk. One garden is evidently designed for butterflies, another for scented plants, odors well-noticed from the car.

Across the road is Alpha Earth, a mixture sold in large bags but used at arboretum tree bases as well as within nearby gardens. A sign reads: "for use in mined-land high-wall side pockets." A wall, remaining after coal had been removed, stretches along the slope behind the garden. Below the Sedum-plant pockets already hammered into the remaining mined-area high-wall is the evident hard work required for audience seats of a small amphitheater, created from rock and a few old trees.

Off to the side on the slope is a limed-, boxed-boundary of an "Alpha Unit," helping all to comprehend the 10-square-meter unit size. Above the wall can be seen a few large tall trees left from before the coal mining. A Tree Tops climbing-sport group at work can be seen from the edge of the theater. Part of the rubble in the theatre base was not needed and a small vehicle pulls a rock sled slowly to a rock crusher at the side, where a mix is prepared of Alpha Earth "soil" for sale and on-site uses.

There is a recently-painted barn, in 3 colors, each part related to its exact latitude and longitude and hours of sun on each surface, for energy savings related to albedo (surface reflectivity). Out-buildings have similar, unexpected colors and shapes and modifications, related to energy budgets.

One large area holds a combined office and museum, in which are described the layers of the Alpha Unit outside the front door. There is a deep hole and a side where people can walk and see the data layers, and a tower is nearby with weather instruments, capturing data feeding into VNodal. Visitors can see from below the ground, up to tree tops. Bird abundance and feeding are of local interest, with the additional knowledge of insects and other life forms and potential disease connections, within layers on display.

Members of the Land Force meet beside the old barn early each morning. VNodal, from System Central and local software, gives the 3-minute-every-day-safety-message at a TV screen. Inside is a waiting room with desks and computers. Some come early for progress toward a GED, advancing their education status. Others work over the small library and local farm and resource subscriptions; two have already started scanning their phones to read about the work for

the day. One studies the wall map to find their place of work and relate it to the assigned GPS-specified work sites.

Chapter Twelve

The Rural Deal

I want you to make a practical “start” with me, to join in starting a company that can make us money and, in the process, add employment, stabilize small communities in the Western Virginia region, and improve diverse natural resource management. I’ve had the pleasure of talking and writing about it. I’ve already invested over \$500,000 (equivalent) since I retired into Rural System and this book. Together, we need \$7 million, total, to start it.

It may be that a computer simulation (est. \$300,000), created in advance of Rural System, may be the needed marketing entity for describing and demonstrating the vast number of probabilistic elements, all merging, and each left-behind ownership blossoming into a lasting, profitable entity. (*I predict a scoffing noise.*) I’ve heard: “No investor will enter a business with a single, advanced-age leader like you.” I have invested... and I hope to live for a long time yet.

The secret difference: we don’t want a grant; we want many personal investments that, when grouped, provide a line of credit ... money we can use to bring Rural System to full operation within 7 years. The line of credit asserts that we *work for our money* and its benefits in starting Rural System.

Why should you or I invest in Rural System?

1. To generate and stabilize annual profit and improved quality of life for 70% of Central Appalachian people, who are in need, and for preparing a crisis-preparation program before 2030 AD.
2. To apply that crisis-preparation system, with feedback, to Southside Virginia. Then, as I continue regional expansion, to provide a stable, ample supply of nutritionally-useful food and water.

You already know about Earth-around changing climate, groundwater, and pollution, but we’ll tackle first the crises within the farmlands of Western Virginia. We can show you a **rural revolution**, a new way to deal with farms, farming, and the total rural environment. We’ll create a corporation for the region, and later franchises for the worldwide dangers ahead, those of food and water quality and quantity for an increasing human population by 2050 AD.

If you are a rural landowner, I want you to lease your land to me, within Rural System:

- To provide care of your ownership (within your stated conditions),
- So that I may use it well, indefinitely, to make money for you,
- So that we may meet a few objectives:
 1. Achieve and enhance the history, beauty, and future estimates and interpretations of the rural region.
 2. Provide meaningful work and related salaries for our local workers within our inter-related businesses.
 3. Provide funds and strategies for stabilizing small rural communities, with adequate related educational, protection, and social services.

4. Restore, enhance, manage, and stabilize high natural resource production of potential and achieved human benefits over a very long period.
5. Conduct practical, profit-potential-increasing studies.

I want to start immediately. I want you and friends and contacts to contribute money to start a private corporation with me, Rural System, to manage and begin improving over 200,000 acres of lands and waters of Western Virginia ... lands and waters of people who have recently left these rural lands for the cities. The emigration is now underway, Earth around.

Impossible-sounding, within Rural System we shall work toward a changing system, one on private lands where they are free to become active and comprehensive, as sketched within *Rural Future*. The planned system is to become one funded by people, families, companies, organizations, and clusters of named private lands that engage in creative, lasting rural land and water management ... for us all, for now and the future. That's what *Rural Future* has been "about": doing good for us all for 150 years or more.

I'm asking you to help me get a start. From one perspective, we're starting "old farming" anew, but we see the UN reports, the Earth-around changing problems, and the enormous "scope" as an enormous challenge... and we know how to win that challenge.

Too big to "skim," it's essential that readers—all citizens—become aware that people have left the western farms of Virginia (and elsewhere in rural America) and continue to do so. There are half as many farms in Virginia now as when I graduated from Virginia Tech. The average farmer is about 57 years old, and has moved or stopped thinking about it. There are about 47,000 farms in Virginia, some prospering. I want to work with about 20,000 of them.

I can ignore the others (whose owners seem happy or speculating), and 8% are contributing 90% of the farm income to the welfare of Virginia. Not just in Virginia, but in the nation: 47% of all rural land is in the hands of absentee owners. Rural System can help bring profitability to many lands and waters with modern, sophisticated management. There's a market of 20,000 farms in Virginia alone, with potential to be brought under contract and into Rural System.

A Glance at the Alternative

"Totaled," they said, and hauled it away much too quickly, on the word of only one observer!

They just did not understand!

Rural System sees the potentials in rural land today. Some leave it, but others remain. We do not try to cause population changes—migration or emigration—only to present *the alternative* to individuals for their lands. Rural System is the alternative to recent farming efforts, historical land use practices, and the powerful pressures of resource scarcity now felt by at least a million US citizens.

I've learned that I shall be unlikely to satisfy remaining rural people, those having had mining-salaries, now that the mines are closing. The problems are abundant in the social as well as within the soils realm. I know the abandoned mine sites and recent mine closures. Yes, they can become profitable... as Rural System enterprise environments! Because we've done related work, we can see the problems and potentials and choose the latter. Compared to sports salaries, rocket shots, TV gambling, and bridges to nowhere, Rural System is cheap—world food without monthly solicitations to feed the hungry.

The hammered farm, once grand, is inactive—a son dead, the mom ill, and the dad old and still working near the barn... hurting. They’ve visited a local assisted-living facility.

Imagine they have now joined Rural System.

They now know more about their land and water than they learned in the prior 47 years they have lived on the tract. There, in front of them, are lists of creatures of the area... “How do they know that species is here?!” (We know from the Rural System database, the **Rural Knowledge Base or RKB**, a massive collection joined into VNodal.)

Because Rural System uses a systems approach, each farm or rural area does not have to be approached “from scratch,” as “a one-product job.” The region can be managed together, and because of economies of scale, scope, and dynamics, information on each farm area will be more complete and each farm more efficiently managed than ever before.

Within a day, because of past work throughout the region, owner-residents will be able to see graphs, tables, images, aerial views, key centers, special features, and data from the RKB—over 100 “facts” about every Alpha Unit of their ownership. The knowledge base for their area will include neighbors, locations, contacts, and typical map features. We shall unify, for our future work, information on political boundaries, utilities, diverse water features, Crescent phenomena, and other variables, both biological and abiotic.

The point: we know many things about each area of the ownership—every Alpha Unit. Once impossible to get, or even ponder, we can now get the information and put it into software decision-aids for the future. With such rich information, we don’t have to repeat or revise the farm, but can begin to create *the alternative farm*. We’ll do agriculture, some conventional rural work, and add many Groups to make profitable the many factors, the uniqueness of the land.

Toward the Bottom-Line

Years ago, Professor Kohl, an economist, graciously listened and advised me about Rural System. He said: “Get your numbers in a row.” I’ve been trying ever since.

Here, within this chapter, is much of what I face and that which must still be reconciled: the financial details, too few for some, too much for many. No “small-business” recommendations have served me well. Emigration to cities occurs because of low financial reasons to stay on farms. “Jobs” are one of the socio-economic objectives of the governor’s office. I offer within Rural System a solution: many jobs, not just another analysis of failures.

Rural System will exist within the same lands and waters of the present, but differ in many ways in how it manages lands and waters for lasting financial gains. With adequate dynamic credit, Rural System can form, lease thousands of acres from absentee owners in the Southwestern region of Virginia, and be fully operational within 7 years, loan (line of credit) repaid. Thereafter, the new Rural System will be achieving the stated objectives from profits throughout the region, and working on future franchises. With strategies for general small-business and established-corporation success, and facing well-known boom-and-bust phenomena of farming and mining, I now explore the prospective corporation, eager to create a computer simulation to analyze proposed changes within a 300-factor, probabilistic, ecological, financial, sociological, energetics-oriented, and past-practices-bound set of factors.

Rural System is complex, multidimensional, and its success has many aspects. Financial success is one, a pointed emphasis to that of profit-motivated achievement of the stated objectives. The novelty is that the owner may be motivated by net financial gains from all of the lands under management and all of the Rural System Groups, bringing a sub-marginal farm with

over-valued property into the range and participation of a profitable state. Rural System Groups will be a diverse, growing Conglomerate of enterprises, franchises, and e-commerce units, grounded in precision agriculture.

In analyzing Rural System's economic impact and benefits, we shall concentrate on more than goods and services, but upon eleven *benefits*, as listed in Chapter 2. Using computer-aided simulation and range statistics, we intend to engage a variety of equipotent options, finding and using the isomorphism of nature's perceived successes. With this process of computer-aided optimization, we are likely to discover a variety of benefits within synergism.

Our main hypothesis is that Rural System can produce significantly more diverse land productivity, but also annual regional profit, from improving human conditions and reducing costs and losses.

I show herein the only way I can imagine assembling a plan for a dynamic project with the scope, cost, social dimensions, and usefulness adequate for decision-making for the future. I have struggled with for-profit vs. not-for-profit designations:

- Only a *for-profit* rationale seems a likely means to move society now to achieve the stated objectives for stable or improved rural areas for the future, however,
- Only a *not-for-profit* rationale seems an acceptable, known way to finance changes needed to reduce effects of a local movement of people to cities from residual rural areas.

Profit, I believe, is the only proper base of a strategy for Rural System that provides the consistent major motive and opportunities needed for society to gain sustained protection, restoration (as needed), and science-based management of rural land and waters for Earth's people in the near future.

From the back row or the over-smiling listener in the group (I can remember several): "tell me again just how you are going to make money!"

I try—here's what I see, here's "the deal." There really is no *singular*, conventional "bottom line" in a purposely dynamic system.

So-called bottom-line questions emerge from within the tangled, high-risk probability of past farming. What is needed? And what's the cost? What's the risk in a very new venture? What I see now is that a secure monetary investment, equivalent in concept to a "line of credit," is needed, as well as several risk-takers willing to face the risks in the shadow of the alternative of an un-managed environment.

The corporation, Rural System, working together with many Groups, or small businesses, may strive to gain support and money together from hundreds of acres of leased rural land. We shall work with absentee owners who have moved away, often to cities, for many reasons. We shall attempt to protect, restore, enhance, and reserve, features of their lands and waters.

Some of our work is called "precision agriculture," some "precision forestry," some "modern agro-forestry." Other people note our strong abiotic emphasis on the factors influencing plants and animals, domestic and wild. Net financial gain or loss potentials often depend on these abiotic factors, such as nutrients or climatic conditions.

Rural System will rent or lease properties from landowners for the long term. Staff, using **VNodal**, will perform a land analysis and then produce an ecologically- and economically-sound management plan. The plan will be broken into daily prescriptions of when and where management actions should take place for a corporate work force, known as **The Land Force**. Employees of The Land Force will then implement these prescriptions throughout the area, leading to stable, bounded profits.

I have planned over 150 Groups, many working together, to operate on enterprise environments (Appendix 1). They, too, are planned to be profit-stabilizing for the long term and guided by VNodal software. An internal Corporate Service Group, called “**System Central**,” will develop plans, connect with other Groups within Rural System, and provide analysis documents for the first 5 years for the enterprise environments.

Work with Landowners

We propose to devise a plan to contact 20 land owners in the region around Blacksburg, Virginia, within the New River Valley, and perhaps also a mining area around Egan, TN, for tests and demonstrations. (This last due to past contacts and mutual encouragements.) We may make multi-media ads and public presentations within these rural areas to absentee landowners and owners planning to leave their lands within several years. We shall present options and direct them to our website, www.ruralsystem.com, for further information.

We offer absentee owners new perspectives on their land and waters. We shall provide new analyses, protection, care and attention, and new enhancements for owners. We shall make money, share it with the owner, contribute to local enterprises, and improve natural resource management. We shall display a modern systems approach to comprehensive natural resource management for each lessor, family, friends, and travelling guests. The results will include enhanced climatic advantages, local community recognition and praise, human-health gains, environmental studies, financial gains for owners, jobs for remaining residents, and an improved tax base.

Rural System will rent—or lease—land from absentee owners, who then become members of the system—our new Cooperative organization. We shall manage owners’ land in new ways for collective benefits for the owner, the region, and Rural System. These practices will include:

1. Tending and enhancing the recorded history, beauty, and future of lands and waters under management;
2. Providing good jobs and salaries for local workers in many Groups;
3. Reducing losses and increasing production and profit;
4. Providing funds and strategies for stabilizing small rural communities—with related educational and social services, and human health and wellness projects;
5. Restoring, enhancing, and actively managing the diverse natural resources of the property; and
6. Conducting practical, profit-potential-increasing studies.

Landowners will share a high proportion of the total, annual income from the entire action of Rural System ... all pooled together, including profits from traditional agricultural production, new crops and uses, and profits from the many Groups. Landowners will be able to specify taboo activities, including profit-oriented ones, and prevent them on their lands or waters. Later we can show the financial impact of each such decided constraint, using a computer simulation, and providing opportunity for them to change their constraint.

Landowners will be part of a modern program for:

1. Reducing poverty and homelessness;
2. Reducing helplessness and hopelessness;
3. Providing veterans purposeful jobs;

4. Enhancing the tax base of local schools and small community activity;
5. Improving water quantity and quality;
6. Sequestering carbon from the atmosphere,
7. Developing understanding of Crescent work, including new knowledge about watersheds and their functions;
8. Improving wild animal diversity;
9. Practicing comprehensive systems ecology;
10. Gaining forest strength, beauty, and health;
11. Making cutting-edge adjustments to mitigate climate change; and
12. Gaining new business dimensions of outdoor tourism and recreation.

Landowners and their families will benefit directly from Rural System membership through:

1. Increased land value;
2. Increased product profits;
3. Continued family control over uses;
4. Land and related resource protection, provided by staff;
5. Tax credits based on computer-selected parts of their property (trust land, carbon-sequestration, etc.);
6. Shared profits from all products, services, activities of the many Groups;
7. Increased pride of ownership;
8. Access to services of **The Wealth Management Group**; and
9. Satisfaction in contributing to the regional well-being of the land, water, and people.

We shall attempt to enhance and revitalize ownerships for landowners and their families and associates, and to facilitate responsible citizenship in a rapidly-changing, urbanizing world. Many people are eager but unprepared to learn about the wonders and opportunities of rural land and water ownership. We can enhance the environment now and for the future, and manage it for wonderful, diverse benefits and for financial gains from regional stabilization or expansion.

There is likely to be a contract element, allowing Rural System to extract resources and perform funded work on the land. Landowners will be free to close or sell their ownership with only a 6-month notice. Long-term uses (e.g., hunting and fishing) are recommended. Membership in Rural System will place the landowner within a far-reaching community of people who know that there are changing needs, uses, and expectations of land and waters. They will know that their land is very valuable, of historical importance, and that Rural System is delivering the best-known service... not as a farm only, but as an enterprise environment—a platform volume of effectively unlimited potentials that we attempt to uncover, use, and create.

Well-known, all land ownerships are not of equal value. In the past, those words were usually based on land seen as cropland or lumber-forests. We know that some land has been found to be very valuable because of government or corporate activity. Acreage is also a major difference, and adjacency to various landmarks or locations can increase or decrease land value. Some have found mineral wealth, others a superior tract for commerce. Land can lose value due to natural changes, such as those caused by flooding. The land and Rural System's set of entrepreneurial ideas, together, can become very valuable.

As we see it, land has future potential for applications and development of the many ideas in Rural System. Rural System staff will be selected for discovering special, often unknown land

value after early visits and studies. Some areas may not be suitable for inclusion within Rural System, even with our most creative efforts.

A **Preliminary Analysis** will be performed in discussion with the landowner as an early phase of contract development—intended to be of very low cost, with abundantly used best-estimates, and dependent upon family or local reports. In Phase 1, we shall evaluate each entry to Rural System of an ownership in a region of work, based on the following weighted mix of approximate estimates (with other questions to come later):

- **Total area size in acres** – the larger the better, relative to a minimum.
- **Area shape** – relative to the estimated radius of the area as a circle.
- **Access** – via vehicles, or proximity to a railroad or river.
- **Water Resources** – presence of a running stream, water body, pond, lake, or river.
- **Hazards** – preferred absence of structural hazards, power lines, major utility corridors, abandoned mines, or designated “brownfields.”
- **“Flat” Land** – quantity, as determined by GIS analysis; % “very steep.”
- **Average Relief** – may determine the number and type of activities or the quality of viewscapes, i.e., diversity of activities may be great if relief is large. We will measure the percent of area in high elevation, by GIS analysis.
- **Reserve Area** – any type of official, often-dedicated area, other than “wilderness.”
- **Wilderness Area** – officially dedicated as “wild” or “wilderness.”
- **Forest Preserve** – presence of total forest area already “preserved.”
- **Electricity** – access to electricity grid, or if planned and underway.
- **Utilities** – access to public utilities, such as water, sewage, and waste, or if that is actively planned and underway.
- **Pasture/Grassland** – percent of total acreage that is pasture or open grassland, not forested, as determined by GIS analysis.
- **Urban** – percent of mapped ownership intensively developed—roads, buildings, etc.—that can be classified as “urban,” according to reasonable definitions.
- **Cluster Potential** – adjacency (less than 130 ft.) to an ownership already within Rural System, or in late stage of entry, for potential work/cooperation together to achieve economies of scale and other advantages.

Each ownership will be given a computer-produced “entrance score,” reflecting the variables listed above, to provide a realistic baseline measure from which to evaluate progress and estimate potential financial developments. The average initial land ownership is anticipated to be approximately 200 acres. A minimum of 50 acres is typical, and no maximum size is foreseen. Each ownership is acknowledged as unique. Each varies in size, soil, access, grazing potential, forest composition, pond presence, amount of restoration needed, scenic elements, etc., all affecting potential related limits for achieving objectives cost-effectively.

Rural System will provide a standard, long-term contract for the landowner, with full provisions and percent of profits allocated, also specifying the consequences of breaking the contract by selling the land or implementing destructive or inadvisable uses of the land.

Staff will work to convince land owners to assign us full authority to carry out the best recommendations for their lands and waters based on science, sound business, and current markets. Of course, families and specified others may continue to use designated land (e.g., hunting season, picnics, swimming, summer sessions). These are conditions and events we shall

enter into our computer programs to get maximum long-term profits while complying with owners' wishes (our constraints).

Freedom of mind is offered—awareness that family property is being well tended, made whole and productive, structures maintained and improved, and that once-beautiful landscapes will be renewed and maintained as esthetically, ecologically, energetically, economically sound—vital for the future.

Among many, “land rent” or *modified lease* is one view of our work with land owners. Rural System would rent the land from owners under a lease, and would pay specified rent regularly, as well as 50% of all of the profit made from all lands under rent. We would pay to enact science-based restoration, development, and management to enhance the land's value and uses. We would also provide aid to the local community—simple derivatives but also from our community-related development work, including produce markets, recreation, diverse sales, and limited philanthropy.

Rent would come annually from land value enhancement (for future sale if appropriate), from carbon credits, intensively managed crops, and 20 to 30 small businesses operating on or nearby each ownership. VNodal, as stated, would prescribe the best Groups from a list of over 150, for early development on each unique property. We would provide continual reports on the activities and accomplishments on managed lands.

An alternative way to think of our work with owners is as an *investment*. Under a document akin to a bank “line of credit,” owners would assign Rural System a portion of the current estimated local value of land per acre (for example, \$1,000 per acre for 25% of 50 acres would equal \$12,500), and we would use that credit as needed for restorative and developmental actions on their property.

Another way Rural System may work with land owners is with the owner contributing funds directly to the **Rural System Foundation**, aware that all of those funds would be used on their properties. Significant notice of their contributions would be provided to increasing numbers of students, and other guests of the various enterprises, giving credit for providing jobs, ecological education, and responsible land management. Under this third option, the land owner would see their land value increase significantly over time.

A final, rarer option would be for a church, social club, or other organization owning land to contract with us, in land and water development, to provide a negotiated, smaller rate of return because of the inherent decision difficulties and the high costs associated with structures likely to be present. This fourth option has major advantages for state and national conservation organizations (and their affiliates) that could gain foundation funds from owned lands with no extra work, serving to build the organization and improve their lands or facilities. Similarly, we have discussed with bank officials the potentials of banks securing private lands under conditional trusts for their clients, and then having Rural System develop them.

Real-Estate Analyses and Processes: Rural System Tactics to Increase Land Value for Owners

Rural System faces diverse financial and value-based decisions, and will approach them with a matched diversity of approaches, or tactics. Rural System tactics for evaluating real-estate opportunities include the following:

1. Direct comparison of the median real-estate price in the area today with its historic changes;
2. Evaluation of potential gains from the land if purchased and developed;
3. Consideration of recent, equivalent local sales;
4. Estimation of land-value enhancement or change from each Rural System management technique applied, such as view clearing, pond construction, and reforestation;
5. Recognition of features present such as historic sites, hunting potential, livestock odors, pollution levels, and public utilities;
6. Weighing of esthetic attributes alongside other values affecting future land management decisions, so that the overall outcome reached is improved community health; and
7. A paired comparison of present land value with projected land value if a respected individual's standards or wishes are held during future management.

While our emphasis is not on the occupied structures, we propose to work on and around structures on lands under contract and throughout each ownership. We believe the marketing gains we shall make in the appearance of the land, to a select-few perceptive individuals and property owners, will be substantial and increasing in the future.

The value of an attractive landscape to a home's or structure's perceived value has often been stated at 15 percent. We believe, with others, that landscape features *do* contribute to the value of a home, and that these vary both with viewers and with the total environment within which each property exists. We shall spend time and resources on our client's land and typically gain enhanced value on adjacent or nearby land and water. Like other gains, often difficult and unconventional to evaluate, this investment is often modest, controversial, but since probably small, will not impact or eclipse the total other notable annual profit gains. We doubt if thousands of dollars allocated to landscaping will *cause* land purchase, but we suspect that *failure* to invest adequately in products and design and removals can significantly reduce land sale gains. Lost personal sale value is also a local community financial loss, thus worth accounting when achieving desired annual profit estimates near a rural community.

We shall spend time and resources on landscaping, enhancing the managed property's value as well as adjacent properties. In one study,¹ respondents ranked design sophistication as most important, adding 42% to home value; plant size was ranked next important, affecting 36% of value added to home, and diversity of plant type (22% of value) was ranked least important. The numbers vary for many reasons, so a solid estimate of enhanced land value remains, for us, a quest. We seek net gains, and so we shall take increased real-estate taxes, as a result of increasing land value, into consideration.

We work toward an expression such as: "A structure valued at \$150,000 with no landscape (lawn only) could be worth \$8,250 to \$19,050 more with a sophisticated landscape with color and large plants." Having invested in such landscaping, we would claim at least a minimum gain from that documented investment in the land and water.

The value of landscape improvement increases over time since the growth and maturity of trees and shrubs enhance aesthetic appeal. These increases can be incorporated into VNodal computations, the transition functions, for guided Rural System management. Other sources on improving property value will add to our related software within VNodal.

¹ Niemiera AX. 1999. The Effect of Landscape Plants on Perceived Home Value [Internet]. Virginia Cooperative Extension. [cited 2017 Mar 13]. Available from: <https://pubs.ext.vt.edu/426/426-087/426-087.html>

Land Acquisition: A Note

Rural System faces many diverse financial and value-based decisions, and it approaches them with matched diversity. Buying a home, for example, may provide the priceless aspect of a nice neighborhood, historic land, and the natural beauty of land with rich flora and fauna and complexities. As a society, we know these things are important and that we value them, but we rarely can say with others “how much.”

We now need that answer to “how much?” as we face the profitability scope of Rural System, on the way to addressing the international crises of 2050 AD. We study the dimensions and financial differences between estimated real-estate value and current land value.

Our tactics for estimating land value include:

- Direct comparison of the median representative real estate area price today to its historic change;
- Estimated potential gains from land if purchased and developed (land + change);
- Comparison to recent, equivalent local sales;
- Value of features present, e.g., historic site, nearby public land (e.g., hunting), public utilities;
- Esthetic units, weighed alongside other values in our future land management decisions by commercial or public groups;
- Paired comparison, where a respected individual or group names a standard (e.g., a farm view from a public spot on a public road) to compare properties; and
- Estimated values of the landscape. Rural lands are of great appeal and have great beauty to many people. They are acclaimed by tourists and their value and importance vary with the seasons. Variety is part of their value, both seasonally (as for tree colors) and for spring grasses and other flora. We believe and shall study the dimensions of our belief that we can increase the financial value of a property by working on that property, with the landscape of adjacent and nearby properties, and by well-marketed results of our work over time.

The “fair value of land” is a critical concept with which Rural System staff must work. It is critical, and has nebulous elements with which we deal, and those predicted for the future, some avoidable, some with low probability, and some with which we may have alternative understandings. “It’s worth is what the owner says it is” has limited meaning. Many variables influence land valuation:

1. **The cumulative statistics** – the mean, maximum, and minimum of land acreage adjacent, nearby, and within a specified region.
2. The above **adjusted statistical expressions** for a land tract, adjusted to very large and very small tracts, suggests the logarithmic distribution of land values that “damps” the large, outlier-size tracts.
3. **“Example expenditures”** for land sale, discounting age, size, notoriety and access, as in “these 3 tracts sold for ...\$.” Prices reported for similar areas within a vicinity can be very misleading.
4. **Reported value of produce** per acre in the past may not be matched now.
5. **Historical value**, i.e., the sale value of the tract and those nearby, may be “outdated.”
6. The **additive value** – the likely extra or added value of the property to that of a potential customer (achieving economies of scale).

7. The **nature of rights**, warrants, and trusts of the property and adjacent ones.
8. The **timber value now** – likely, harvested, and minus taxes.
9. The **enhanced or changed values**, success, ponds, land restoration, and proposed access and/or development (including rates of local human population change and market activity).
10. **Land shape** – GIS analysis of slope, aspect, elevation, stream(s) present, roadway length, boundary length, and an actual length to minimum length index.
11. The **border area** – acres in private and public land in a mapped area around the property, suggestive of problems and/or advantages, largely based only on the size and shape of the property being analyzed.

We shall develop a software unit for rapid analyses of the above, results cast as an advisory document for buyer and seller and for potential user sales within a real estate Group or office, perhaps unified with GIS service.

The Realtor Group is a proposed enterprise of Rural System within System Central (with extensive computer mapping capabilities), or it may be developed as an affiliate project of an associated realtor. When active, it will make information about any tract of land within the region available to realtors and buyers.

To know it is to love it may be true for land. The working hypothesis for designing and implementing this unit is that land will be better used and managed over the long-run if people learn about it, come to appreciate it, and learn how to respect its limits and to exploit its potentials. Beside many general public relations benefits of working with Rural System, realtors are likely to increase sales and repeat contacts, improve satisfactions for buyers, and enhance their role within the region.

The Realtor Group is a planned system for people who are appraising, buying, selling, renting, or developing land, for realtors and their real or potential clients. It may also become a partnership development in which Rural System invests with realtors in efforts to sell or rent land. If successful (very likely, with the combined work of an effective realtor and the services of Rural System), a small percentage of the commission of the realtor may be shared to improve The Realtor Group and enhance Rural System.

Most people believe they know what they want in real-estate, and they express these needs or wants in simple terms such as “a good piece of land” or “a place in the country.” It takes work to describe exactly what is wanted. Equally or more important is the problem of describing what they will get. Most people do not even know the categories, what questions to ask about the land, or what information they *could* get if they knew how to ask for it. Few people have much practice in making big purchases. Stating wants and needs for rural land purchases becomes increasingly more difficult for people as the society becomes more urban.

The Realtor Group will provide a report of an expert system analysis (from VNodal) of lands that may meet the criteria and interests of a prospective buyer, and then suggest (if requested) three financial plans for assisting in achieving a sale or purchase. The report is imagined to be like a medical “work-up” on a patient. It can also be compared to military intelligence. The Realtor Group will produce reports, maps, and illustrations that will help realtors sell land by providing the answers to questions that clients may ask about land. It will be the best information currently available within a dynamic database, and will be provided in cost-effective phases. It will attempt to increase the chances that customers will be pleased, that the land and resources will be used well, the people of the area will prosper, and the users of the real-estate business component of Rural System will become increasingly prosperous.

A group of scientists can study a small tract of land for their entire careers and pass it along to their children for more study. There is no end to interesting questions about every piece of land. The Realtor Group will deliver information in three phases and in sequence. Each phase is of different intensity and depth. The Realtor staff, with a university foundation, can also develop a unique program of long-term studies for a client. Besides great taxation benefits, the public relations gains cannot be discounted. The report will provide a baseline analysis as protection against future claims of excessive changes and abuses.

Phase 1 will provide information about the state and counties. It will give the ecological region and general information about the forests and wildlife of the area. It will provide exact location, rainfall, monthly temperatures, growing season, and an estimate of the *number* of species present. It will analyze area, boundary length, and adjacent owners, and the problems and benefits thereof. The most exciting part of Phase 1 will be the maps; based on a rough boundary map supplied by the realtor, the area will be displayed within a topographic map “window” of about 25 miles on all sides. Expert survey sources will be suggested, and detailed mapping will be arranged as needed. An attractive, three-dimensional, full-color picture of the shape of the land surface inside this map will be presented, along with the rough boundary.

Phase 2 will list which major species are known or are likely to be present, analyze the slopes, soil, and aspect of each unit, and provide extensive documents about the forests of the area. A vegetation map will be supplied, and a map based on the latest analyzed satellite images for Virginia. Five other maps will be presented, displaying slopes, aspects, solar radiation, elevations, and watersheds.

Phase 3 will provide other information about the area, but its emphasis will be on ideas for development, ecological limits, financial options, and ecotourism potentials. Gross forest potentials will be estimated, but clients will be referred to a company especially equipped to move past The Realtor documents—to use them and the investment made in them, and to supply sophisticated, cost-effective forestry services to enhance the land and stabilize its productivity and potential profits.

Investing in Rural System

I believe \$7 million is needed for a base agency or enterprise to create Rural System to achieve its stated objectives within 7 years, and to repay the loan. Thereafter, Rural System will continue operations, dedicated to research and studies, site conservation, and education of remaining rural people and their associates, in addition to making profit.

The proposed “investment” is not proposed as a grant request, but as a line of credit to create a private, for-profit corporation to meet pressing health, education, social, and natural resource needs on private lands within the state, in cooperation with state agencies (e.g., the Virginia Cooperative Extension Service, Virginia Tech Information Technology Program, and the Virginia Conservation Management Institute) when feasible.

As an example, consider a hypothetical 65-acre farm with land, house, and buildings valued at \$3,000 per acre, thus a total value of \$195,000. For a 30-year mortgage at 6%, owners would need to pay \$33,951 per year. The estimated annual yield from this hypothetical farm is \$25,440, meaning the property costs the owner \$8,511 per year to keep.

Rural System can conservatively offer the following to owners with their land under contract as a Rural System enterprise environment:

- 2% land value increase due to an information package about the land, visual quality, reduced risks, reduced problem areas, and public relations as an environmentally responsible, “green” property – an estimated value of \$3,900
- 5% increase in forest productivity – an estimated value of \$750
- 3% increase in crop production using computer aids – an estimated value of \$100
- Reduced storage and working area cost (due to cluster efficiencies) – an estimated value of \$500
- 50% of all Rural System profits from ancillary activities, memberships, and services – an estimated value of \$3,000

The total estimated annual financial addition for this hypothetical average 65-acre Rural System tract is \$11,420, and given the previous estimated productivity of \$25,440, Rural System can bring the annual income to \$36,860, meeting and exceeding the required mortgage of \$33,951. All of the production estimates are average; all of the gain estimates are conservative.

Gross Rural System estimates can bring a slightly sub-marginal farm with over-valued land and house into the range of being profitable. The Rural System affiliation will likely bring additional landowner income as a member of a diverse, growing Conglomerate with profits expanding with additional enterprises, incentives, franchises, and enhanced land productivity grounded in precision agriculture, resulting in community betterment.

Making Money: The Profitability Processes of Rural System

I “give away,” up front, the answer to the first question usually asked as I discuss *Rural Future* with friends: “A business! How does it make money?”

The answers are in the book, but here is an effort and a list to damp doubts or give an answer:

1. Rural System, the enterprise, will lease rural land of absentee owners. Subsequently, annually, owners will get a percentage of the annual profits of the entire Rural System—all lands, waters, and businesses. Their land will increase in value, reducing losses.
2. Lands under contract will be managed in clusters, 2 or 3 ownerships close by, achieving economies of scale and major diverse efficiencies.
3. Lands will be analyzed by the Land Force, using technology, including access to an extensive GIS database (all data GPS-specific).
4. Rural System will build from our prescription system with 3 phases, leading finally to private land development for owners... many of whom are absentee, now urban dwellers.
5. Precise analyses and prescriptions will be produced by the diverse corporate computer system called VNodal. Information will grow and prescriptions will be issued from ever-changing “expert system” processes, addressing what-to-do-where.
6. With owner approval, the Land Force will implement the prescription, that for preserving, restoring, cultivating, harvesting, monitoring, and adjusting.
7. Marketing will be very active for the planned Groups.
8. These Groups will change “farms” into “enterprise environments,” then into “clusters.” The land, redeveloped, will become available for use (if appropriate) by memberships (many Groups, such as those with interests in gardening, turkey, bob-white quail, bird-

watching, deer, bear, bobcats, nature study, and owls). There will be other Groups, not “of the soil,” but with more general memberships and services (e.g., poems, music, photography, and laboratory).

9. Rural System will be hyper-attentive to reducing losses and risks, and gaining benefits from topics for which low structural capital investments are required. Net, dynamic, desired differences will often be discussed.
10. Annual profits will be assigned to land owners, investors, and staff (with a portion to be invested in increasing the land productivity) in proportions assigned within the initial contract based on acreage and a “productive capacity index,” measuring how productive an enterprise environment is likely to be.
11. Rural System will diversify employment and staff interests. It will provide a new tax base for the stability for local communities. Research- and studies-based, it will concentrate on harvesting past investments. “Jobs and salaries,” very important, will be developed, technology added, and made available for the current residents, many of whom have suffered losses from mine closures and the other historical problems of Central Appalachia (and, ultimately, in over 140 countries worldwide).
12. We shall study and work toward a concept of becoming a “lean community,” generally saving money and energy, increasing productivity, increasing profitability of such production, making successful start-ups, fixing problems, featuring markets and gaining market quality, and rewarding improvements.
13. Rural System will focus on achieving its stated objectives, but, failing that, will seek Earth-around assistance to form Groups as they coalesce in tending diverse water crises and supplying food for Earth’s population—now growing faster than food production and Earth-system management.

The process by which Rural System reduces costs and widens the profit margin is ten-fold:

1. We implement “economies of scale” —notable gains and improvements resulting from increasing staff, project size, etc. —promote efficiency, pool resources, and reduce waste. The nature of the highly-informed computer system, VNodal, with feedback and feedforward, allows for more intelligent logistical strategies. Essentially, we are better able to hover around optimal cost-benefit ratios. Modern biologists understand energy systems, those of cities, forests, and people, and understand communities in terms of energy balance in healthy systems. Energy drives natural systems and can be measured numerically, much like money, and it is a limiting resource, again like money. “Resources” are valid topics, regardless of whether people are discussing a modern human system or a natural system, and all include costs!
2. After years of exploitation, there may be little reliable production left from the land, even if very precisely and carefully used. Knowing this, Rural System gains will be from the sum of land gains, reduced land losses, and reduced wastes. This may be part of “conservation economics” or *profits from money saved*.
3. We consciously and actively work for “synergism,” the process that creates gains and effects greater than the sum of two or more working factors. We see this in the

effectiveness of paired agricultural pesticides; healthy, strong husband-wife teams, successful sport-teams, and highly resilient farms.

4. We propose to link profit with the seemingly ambiguous, but omnipresent value of community health. We aim to demonstrate, through a computer-guided business aimed at optimal land management, that by reducing health care costs for families in Rural System employ through improved health and wellness education, we shall increase *net* profits for the company.
5. We shall develop a Wealth Management Group, providing solutions for individuals, families, and Groups, including advice on dynamic farm policy, forest taxation, landscape valuation, evident constraints, and pooled-buying strategies (e.g., equipment). Rural System would also educate people about how, through synergistic tactics, pooled resources, strategic loans and investments, and local computer-aided concepts and simulations, people of the region can benefit now and in the future from the funds gained.
6. Agroforestry (Chapter 8) is intensively recommended by the USDA, so we use our **GIS/GPS Group** to find the best places for “alley-cropping,” a recommended agroforestry practice, of poplars and peas, sycamores and switchgrass, and hazelnut and millet on ownerships.
7. People in the past have not been appropriately assigning values to the intrinsic and aesthetic components of the cost/benefit equation, and thus are suffering great costs by not assigning profitable gains from community health. We shall discuss opportunities with active Groups and continue developing practical applications of energy knowledge and opportunities for rural conditions (discussed with Q* action).
8. We shall apply an option of “opportunity cost valuation,” e.g., the “value of squirrels” to an owner is at least as much as the woodlot trees’ sale-value that a tree owner forgoes in order to maintain the squirrels.
9. We count reduced losses and costs resulting from the work of our **Safety and Security Group** and our **Fire Force Group**, and we explore net gain opportunities for similar estimates with our **Studies** and **Pest Force Groups**.
10. We capitalize on embodied energy tactics, especially those of recovery, restoration, repair, reuse, and value-adding.

Why so complex? Because we have precise and varied objectives, and we need to have a way to make adjustments, and have a common means for computing status and progress. We have to prevent “boom and bust,” a past tradition, but provide desirable jobs and stable work. We have to improve and build on the resources we now have, recognize the past and the present conditions, gain funds from state and federal tax sources, agree on a coming future... and prepare for it all at a local scale, with possible messages for the future on display.

Several planned simulations will allow a study of the many decisions needed related to the payoff and profitability options above. They can be combined with expected-value studies within the accounting system. These will be on display in public presentations, locally.

Economic Resource Valuation

In economic resource valuation, we stress equal value of named entities, believing that people are usually able to evaluate an unknown or “topic of concern” relative to a known-value entity.

We shall use small evaluation teams, respected local volunteers willing to visit sites or objects (trees, waterfalls, areas “for sale”) and who will submit an estimate of value or a set of relative values. For example, the group may visit viewscapes one day, or photos, make entries of relative beauty or relative impact, or loss or social cost of a lost view or set of views.

We shall monitor the rate of change in timber values in the past few years, suggestive of changes in tree value (median value of local “stumpage”). This estimation of tree value implies real values and their dynamics for less well-known markets than local trees, and for a long list of forest benefits to individuals and to society. We shall add the locally-reported value of land rented for hunting to forest tree value. We shall use the value of within-market soil, and suggest minimum value of soil within-forest area—43,560 square feet x groundcover of 8 inches = 0.75 feet of soil—to assess current market value of an acre of median-value soil.

We also engage contingent-valuation, money that select people are willing to pay for more or less of a forest resource (if forced to choose). We shall start with the option “now known” and go to great lengths in computer simulation and social media illustration to present unconventional but realistic choices with rates of change for decision options.

Dynamic Lean Production

When I see people in serious trouble, I tend to look for help and answers to questions of how to help. Silly; I usually think that I might be successful. I have little evidence of that but I try, usually realizing the problem exceeds my resources. Then I re-focus on “personal resources” of analysis and creativity ... topics also limited. Then I try to formulate the basis for the perceived problem. In the case of formulating a Rural System strategy, it must be for the great, continuing emigration of families out of Southwestern Virginia, a great tragedy only slowly, slightly similar to modern refugee moves.

The causes are related and the order will be debated, but the evident result is mainly poverty, related to number and type of jobs, land productivity decline, regional economic instability, landowners aging (making farm-work difficult or impossible), and rising prices of essential commodities.

Local hospitability and inherited land, love of the land, living off the land, and family-sharing resources seem to achieve the current levels of need for people staying on the land. Many people can “do well” by diversifying, depending on inherited land, making wise investments, maintaining land productivity with education aids, adopting favored practices, and working markets skillfully.

I believe the only way to hold a large population within the region for the good of the people and the stability of the socio-economics there, is to diversify private enterprises and to provide part of profits to landowners. Otherwise, they will have to leave, often very unwillingly and retaining a lasting, unfulfilled love of the land. Adequate, lasting, stable amounts of money from the land system seem to me to be the only satisfactory long-term strategy for gaining *a vital region*. We have decided that our objective needs to be achieved and summarized as having a *high index of profit*.

Related waste-reduction analyses involve: identifying a resource in-hand; saving; preventing loss, wear, or destruction; storing and preserving (drying, pickling, enclosing); restoring or re-making; re-cycling; and composting ... all with likely local rural market costs. We evaluate objects starting at the beginning of each named “new” resource condition. The **lean condition** is the new one. The measure is valued outcome, or production of each item per unit time as related to the initial cost of the production equipment, and that of the repaired and revised equipment, tools, vehicles, etc.

For us within Rural System, *lean production* is an inclusive strategy² for producing value to paying consumers, and desired annual profit index units to Rural System. The two are balanced. Lean production concentrates on reducing all expenditures and losses that can be considered probably wasteful and of unknown purpose.

Rural System: A “Lean” Community

There can be no additional “fat” in our modern community. After work within Rural System, the surviving communities in Central Appalachia and similarly-stressed areas are likely to speak of being diverse, lean systems. They will mean that they tend to be doing the following (for it is a collective, on-going, imaginative, improving activity or set of tactics in a broad strategy, ripe for local improvement and advanced planning).

Becoming lean has been called a mind-set. Developing and living in a lean community is a procedure to save money and energy, increase productivity, increase profitability, improve start-up ventures, fix problems, shift to emphasizing market quality, and to do better when we think we are doing well.

Forming and operating within a dynamic lean community goes past old diagnostics or tearing-apart tools, and establishes a fundamental designing and improving process to work on:

1. Increasing speed without working harder by eliminating delays,
2. Increasing quality estimates/measures by about 50% by deducing defects,
3. Cutting costs and boosting profits (25-50%) by reducing variations and re-work,
4. Re-investing earned income into healthy families,
5. Engaging in making money by keeping money, and
6. Plugging financial leaks related to defects and variations.

We develop **processes** that can be adjusted and transferred. Words often used by groups and on memory banners to stimulate discussions are part of our current system tactics for development, growth, and improvements. Rural System experiments with utility of the **FISH** remembrance tool:

1. **F**ocus on one key problem at a time;
2. **I**mprove each product or process significantly by eliminating delays, defects, and variations;
3. **S**ustain improvement; and
4. **H**onor progress, making it visible and move to report improvements.

Within Rural System, we aspire to leadership by demonstration, assuming a role in the Appalachian community with our emphasis on increasing service and cutting quality-reducing, profit-eating problems.

² Ries E. 2011. *The Lean Startup*. USA: Crown Publishing Group.

To Customers, Clients, and Those Whispering “Help Please!?”

As never before, we have techniques and systems to achieve marketing within the new framework of Rural System, and seek to embrace marketing with the same novelty and creativity of our related Groups. We plan to use predictive models and statistical tests of production, balanced with purchases and profits, after careful targeting and avoiding waste and losses. We work for knowledge about customers to gain for them precision deliveries and timely uses and storage... as well as new products, services, and efficiencies.

We are intrigued by new electronic sources of connection, communication, and experiencing what we have to offer, and the successes and satisfactions that it may produce for a growing population in towns, residential areas, and those at the urban/rural border. For example, see our blog at www.ruralsystem.com/category/blog (and we plan to build a presence on YouTube, Twitter, Facebook, and LinkedIn).

As another example, we have planned **The Listener’s Group**, a community-oriented media company that will produce a Rural System podcast, sponsoring local music, art, and poetry. The Listener’s Group will also deliver warnings (e.g., hunting season, floods, new water and flood hazards, pesticides) among other activities. The Listener’s Group would therefore work closely with **The Marketing Group** (e.g., podcasts combined with social media marketing) and **Earshot** (e.g., finding an optimal sound level for warnings). The Listener’s Group might also work with Earshot to obtain quality recordings of owls, and work with The Marketing Group and **The Owls Group** to attract visitors to Owls Group activities.

Our sales environment is large, even unlimited in a digital age, and focused on rural people recently moved to cities, as well as those still living within rural regions.

Marketing has many meanings, but we see it as “enhancing and changing behavior.” It’s intended for employees, consultants, advisors, and volunteers, and will be well-understood by customers of all types. It is a few words about what we all should be doing together. For example, forest and wild fauna and flora managers are traditionally oriented to the production of forest and farm *products* rather than forest and farm *services*. Developing perspective and sensitivity to such changes is part of the new work of Rural System’s Marketing Group.

Rapid changes in consumer demand and tastes have come to farmers and foresters in a much watered-down version, through limited contacts with primary product buyers—who themselves have great sympathy with the foresters’ problems of production on the land... The manager of the forest recreation environment, for example, is thus directly subjected to all the pressures of the consuming public and is constantly feeling the cutting edge of changing tastes and innovations. For marketers, there’s need for new empathy of staff of other groups with the people using the forests and fields (recreation being one such service).

“Markets” are seen within Rural System as human populations of buyers and users. The goodness of many ideas must be seen as being evaluated by the number of buyers and what they are likely to spend. They are much more specific than “society,” “hunters,” “anglers,” or other non-specific interest groups. (Whether the buyers use what is bought requires separate analyses.) Marketing or using markets (as we now understand and use it), includes: (1) analyzing individual and group wants and needs; (2) taking diverse actions and making media presentations; (3) presenting new options and alternatives that are now (or may become) wants and needs (often synonymous with advertising); (4) increasing desire for needed things (life-quality enhancing and prolonging, or otherwise socially beneficial); and (5) assisting in finding legal and socially responsible ways for individuals and groups to satisfy these enhanced wants and needs.

Stabilizing Profits

I taught wildlife management, an ecology-based course, and realized near retirement that I had taught students—presumed to be heading toward state and federal jobs—how to *spend money* (on conventional wild animal management techniques). I have now realized that I must learn and teach people how to *make money*, if I am to help address the looming national and Earth problems I see for my family and community. Only a broad-scale financial incentive can motivate enough people to become effective against the growing rural land problems, those of wild fauna, now advancing.

In Rural System, we shall concentrate on financial stability, believing that if bounded, sustained profits are achieved for many years, then most of the other important, not-easily-quantified objectives can be achieved. Adequate income, one objective, may be a condition for satisfaction with the other objectives. Threats on display in computer simulations may build desired interest and improve decisions.

“Bounded” signifies the stated upper and lower acceptable limits on lasting profits. The bounds imply the reasonable extremes in annual expectations for profits. Fluctuations of rural conditions are expected and predictions of variability inform managerial actions, preventing excessive high or low annual profit gains.

We know that we cannot achieve “maximum profit” each year. We know the evils of boom and bust economies, the intolerable losses, extreme highs followed by extreme lows. We want high profits, but we do not want to over-invest in structures and machinery needed to gain them, because we know that maintenance and updates can be costly in the future. We cannot stand the losses and the grief of extreme lows, for that is to court bankruptcy.

We want to achieve a high, consistent, uninterrupted performance, amounts that we can graphically describe. Many high gains, within bounds, may open opportunities for Rural System expansions into other regions. “Highs,” are often matched with “lows,” within bounds, as in other investment operations such as stock trading. We need to state what is tolerable and specify the perceived upper and lower limits over time, i.e., the bounds. The bounds will be set by System Central and will usually be expressed as a proportion of the profit. Decisions about bounds will be aided by computer simulations.

The gains may not change much because of biological and other limits, when compared to current superior land use elsewhere. The profit ceiling may not change much, if at all, but the profits will be notable because of decreased wastes and losses, using lean production practices. Difficulty in gaining profit from owning land increases with inflation, diverse structural development, and speculation. International financial shifts, climate change, local catastrophic events, and national subsidy decisions weigh heavily on estimates of rural-based income and thus investment decisions.

In considering the frequent advice I have received to “start small,” I have discounted projects and activities such as those found at agritourism fairs and events at first, because returns on investment are too small and difficult to market. We do look at what people are doing now, find what works, and discover how to be significantly more successful than they are. We already know that most of the owners are having trouble with stabilizing profits. By providing corporate business backup, equipment, secretarial help, transportation, scheduling, equipment and storage space, Rural System Groups will develop economies of scale, cutting costs to increase net profits.

Rural System profits—from all lands and waters under lease—will come primarily from our many planned Groups. Some Groups will produce profit from the land, some from ponds and

streams, some from office-space on the land, and some from marketed services or from visits or sports. All staff are attuned to climate/seasonal influences, losses, pests, safety, and diversification topics.

Rural System gains will increase by incorporating Cooperative Extension Service recommendations on very-specific GIS-computer-selected sites, with superior field operation scheduling and rotations. Thus, there will be more farm produce yields than in the past and much more efficient produce storage, transportation, and sales from new marketing efforts (including social media), and continuing traditional outreach than from recent practices. Added to this are gains made from work at a much greater scale than in the past, both in terms of total acreage and in terms of the network of Groups working together to achieve economies of scale.

Groups within Rural System will use VNodal software output recommendations. Using knowledge of likely change over time (such as animal growth, changes in safe automobile performance, building service, or tree growth), patterns derived from ecological succession known as “transition analyses” can be mastered with computer models known as Computer-Aided Transition (CAT) software, within VNodal, to direct management actions and Group operations (Chapter 4).

Producing food, fiber, and quality water remain important, and are a near imperative. We shall work for those, for our corporate objectives, and for increases. Profits from invested annual income from Rural System enterprise environments can likely far exceed the value of any managed wood harvested, alone, at the end of a long investment period on a property. The annual financial gains will be pooled from all enterprise environments and all Groups.

The owners of lands will receive about 50% of the profits of the entire enterprise. The 50% remaining will be distributed by System Central. We need further analyses and a simulation for the consequences of a decision about how profits will be allocated. The initial proposed distribution of financial gains (the 50% not given to the owners) is as follows:

- 20% – capital and leadership incentives
- 40% – staff incentives
- 10% – staff expertise enhancement and conferences
- 1% – rebate or award distributed to members of The Land Force
- 15% – tract enhancements
- 10% – applied studies, expert consultants, software additions, and systems building
- 4% – opportunity/contingency fund

Benefits to business cooperators and collaborators will be based on contract decisions and treated as direct costs to Rural System.

To summarize key points of this chapter, there are many layers to our company proposals to achieve profit, and we’ve touched on aspects of economies of scale, Groups, reduced waste, reasonable expectations, and what we offer the landowner. But the real key to Rural System’s success can actually be understood simply, not only as profit, but as limited and “bounded” new gains and reduced losses, the sum over many areas over many years as “savings.”

I perceive that the only thing to which large, diverse, modern human populations are likely to respond positively, immediately, are *profits*. We must make a WWII-like beginning response with Rural System within local populations:

- Continuing some “farms” (among 47,000 in Virginia) with secure improvements;
- Relinquishing pious and place-specific premises and appeals;

- Recognizing the failures of conservation education, greening, and appeals to state and federal land management at making measurable gains for generalized welfare within highly diverse national populations, many now in poverty, hunger, and using unsafe water supplies;
- Aiding those having moved to cities and who have relinquished their ownership and/or access to some sources of food and water; and
- Implementing the major, dynamic elements of Rural System.

Our rural society *already* has perilous conditions, and we have to make giant changes ahead, before world shortages of fundamental food and water needs and high risks occur. With a few exceptions, what we've done in the name of "conservation," or recently "greening," has not worked. A surviving trend has not been set, and it must be. Herein we have offered the only feasible alternative: a significant, clear profit base for rural resource benefits, one that is annual, long-lasting, and with motivating financial dimensions for people.

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.

Contact information:

Robert H. Giles, Jr., Ph.D.
509 Fairview Avenue
Blacksburg, Virginia 24060
United States of America

Publisher:

Handshake Media, Incorporated
<http://www.handshakemediainc.com>
contact@handshake20.com