



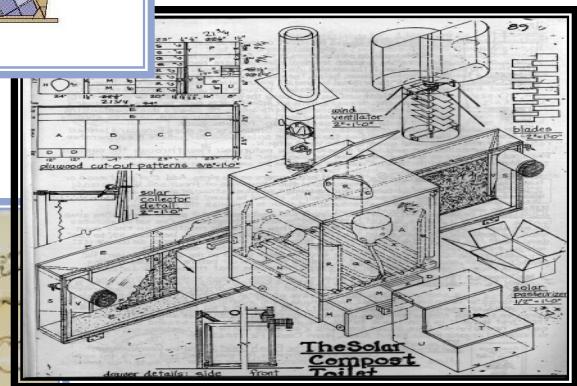
The GaiaTech® EcoVillage

Sustainable



Through

Conscious



 **QUARIUS ECOSYSTEMS, INC.**



I. Objectives:

The **principle objective** of the GaiaTech EcoVillage ("GTV") is the substantive exchange, give-away, and transfer of empirically tested practices or Technologies which produce skills that ensure the development and sustainability of its social, economic and environmental attributes. The development of these sustainable Technologies is envisioned to provide for their expansion to a greater part of the Planet. Various village humanitarian and commercial organizations will accomplish this objective through interdependent development, education, local induction of self-sustainable and ecologically sensitive Technologies, practices, and products for application in rural and urban settings of need worldwide.

A **further objective** of GTV is to demonstrate practices that ensure a high quality of life for village participants while ensuring locally sustainable development, conservation of the bio-diversity of natural resources, and self-sustainability through social, economic, geologic, and climatic changes.

II. Definitions

Since each individual has their unique idea about what is meant by "EcoVillage", "Sustainable", and "Quality of Life", these concepts are specifically defined and provide a criterion to which all practices should adhere.

EcoVillage:

- ◆ Demonstrate lifestyles which are "successfully sustained into the indefinite future"
- ◆ Ensure stability through periods of economic, geologic, societal, or climatic changes
- ◆ Weave together into one fabric, all aspects of village living, including; housing, energy, health assurance, education, commerce, agriculture, cottage industry, recreation, and culture
- ◆ Promote the ability of the individual to experience a quality life of physical, mental, emotional and spiritual fulfillment
- ◆ Meet every aspect of the definition of "Sustainability"

Sustainability:

Meeting "the needs of present life-forms in a healthy manner without compromising the ability of future generations of all life forms to meet their own needs." Specifically, activities are defined by GTV as sustainable when they meet the following criteria:

- ◆ Use materials in continuous cycles
- ◆ Use renewable and reliable sources of energy
- ◆ Are primarily founded upon the qualities of being human (i.e. creativity, communication, coordination, appreciation, and spiritual and intellectual development.)

Quality of Life:

This goes beyond basic survival or the necessities of the physical body. Once we have secured the food and shelter necessary for healthy life, worlds of opportunity open up for personal growth and satisfaction. Time and opportunities for experiencing creative expression, learning, love and laughter, as well as art, music, dance, sport, communication, service, and appreciation of the universe give our lives quality. Quality of Life is also greatly dependent upon the attitude of the individual living the life. It is our hope the goals of Village participants will be focused upon the Village's ability to provide pleasure, purpose, comfort, and meaning to our lives while responsibly stewarding the Earth and invigorating each other.

III. Organic Food Production

Villagers, and those regions to which the agricultural cottage industry exports food, will enjoy a class of Superfood vegetables, fruits, nuts, and herbs incorporating currently unheard-of dietary diversity, nutrition, and agricultural sustainability within a single operation. The growing areas will include one-third of available agricultural acreage in fruit and nut orchards and two-thirds planted in row crops. The growing practices will produce Superfoods with emphasis on sustainability and certified organic protocols. Cutting edge Technology in the areas of seed propagation, irrigation, agricultural input production, soil management, crop diversity, and vital nutrient supplementation (free of synthetic fertilizers) will present a model for food-based nutrition and sustainable farming of the future. Consistently increasing consumer patronage of organic foods and 'super-nutrition' markets will ensure the GTV cottage industry profitability and a sustainable source of jobs within the village.

We believe that the human contribution to nurturing our crops is critical. Our spirit of life and our relationship with the earth and each other is reflected in the products of our lives. The people responsible for cultivating our food will find joy and reward from their effort. The abundance of care in our fields will be reflected in the quality of our harvest. This model will reveal a system where crop diversity, soil health, high nutrition, and economic viability coexist in harmony with nature.

The cottage industry export of surplus produce will offer a class of Superfood products that concentrate upon building soil structure through the use of agricultural inputs produced on the property. Composting is the greatest single application for soil structure and micro nutrient availability and will be applied via our 30 years experience with on-site composting. We will immediately begin to practice green waste and source-verified manure recycling to produce superior quality compost. The agricultural input manufacturing process augments the compost with fish and herbal products, sea vegetation, chelated minerals, rare earth trace mineral extracts, specific enzymes and microorganisms. This will ensure full-spectrum bio-active nutrient delivery to our crops. The symbiosis of these practices will assure products of a Superfood class that is not currently available.

Further enhancements to the quality of our organic foods comes from our greenhouse operations for producing both row crop and orchard starts from certified organic seeds and tissue cultures, permanent drip irrigation in the field to deliver additional water soluble nutrients and water programmed specifically for individual crop requirements, foliar nutrient application, crop rotation, and companion planting. Over time we will propagate non-hybrid, open pollinated varieties specifically suited to the GTV microclimate.

The plants' natural resistance will be stimulated and maintained by viable and sustainable soil structure enhanced by an advanced nutrient program to address the challenges of pests and disease. Organic agriculture is not simply the growing of food without pesticides or synthetic chemicals. It is the practice of working with the natural living ecology of the earth to utilize beneficial insects and other naturally derived biological controls so that chemical pesticides are simply not needed.

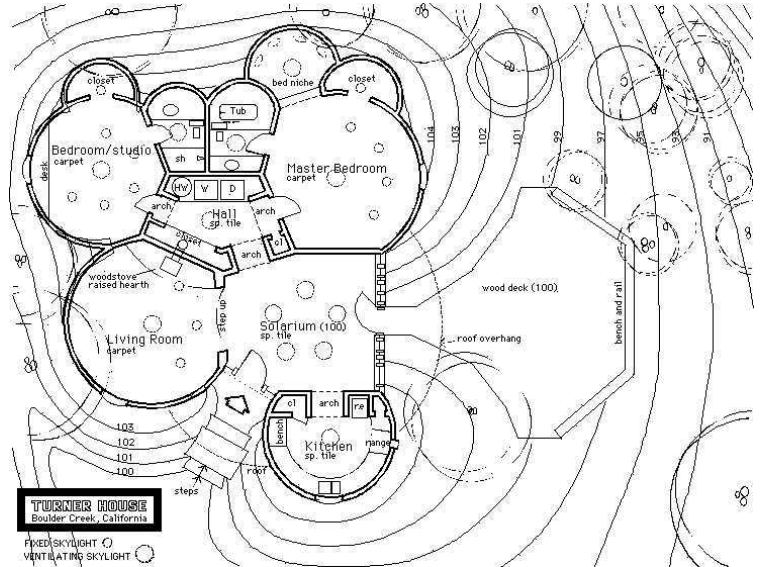
The site selected to launch the GTV enterprise will offer complementary growing conditions. The attributes of ample water, mild weather allowing year-round cultivation, and volcanic soil would offer the ideal microclimate and soil characteristics. The elegantly formed fields, contoured with the lay of the land, will be enjoyed by gardeners and visitors alike. Growth-oriented organic markets lend the best of all possibilities for demonstrating sustainable economic success of the village's organic foods cottage industry. In addition to feeding our sustainable-living community, the primary market focus will be restaurants, consumer food markets, and hotels, expanding to health food stores and resorts as local markets demand. Community members will enjoy the advantage of a complete diet of diverse produce year-round, as opposed to the one or two crops produced seasonally by most growers. Because our surplus will be competitively priced with conventionally grown produce, volume purchasing is ensured due to the desirability of chemical- and pesticide-free produce. The operational structure will include all facets of a vertically integrated, self-contained agribusiness, including propagation, agricultural input production, farming, harvesting, dehydration, packing, sales, and distribution.

Crop diversity will include a complete diet of vegetables, fruits, and nuts as well as medicinal and culinary herbs. 'Added Value' products such as "Signature Salad" mixes and herbal blends will be a part of the product offering.

IV. Village Housing:

Turner Domes

Two types of sustainable homes have been identified that meet the sustainability criteria envisioned for GTV. The first is the curvilinear air-form *Turner Dome* made from natural earth aggregate, which is sprayed onto a non-toxic bubble-form that may be configured to virtually any size and shape. The *Turner Dome* design utilizes a cluster concept, where each room is reserved as a single bubble in the cluster. This design theme provides the home with a unique and natural flow yet an unparalleled sense of privacy in every room.

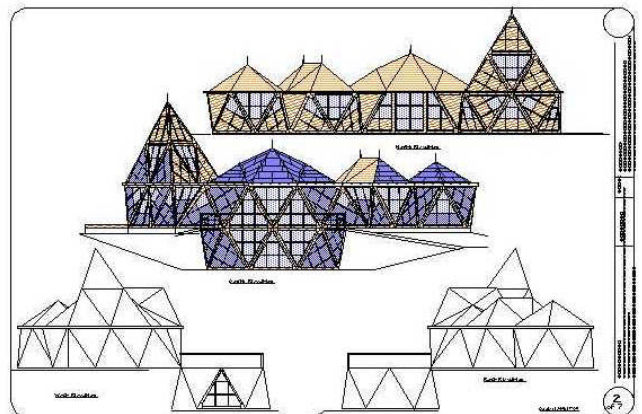


The interior of the Turner Dome is filled with natural light.

DNA Home

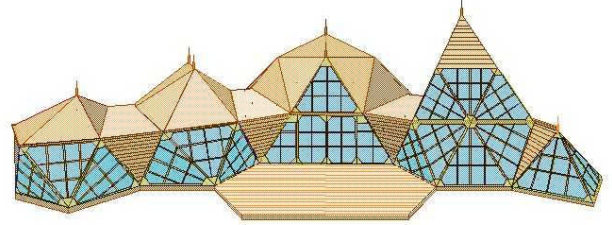
Another option is the modular *DNA Home*. This fully self-sufficient and environmentally friendly home sets the standards for positive impact with an off-the-grid western-comfort style of living.

While the *DNA Home* looks very complicated, construction is fairly simple. Most of the wall, roof, and floor panels are equilateral triangles, eight or ten feet along each edge depending upon the size of the selected floor plan. The panel skins consist of materials graded according to the climatic conditions at the installation site. These skins encase insulating materials, creating a very strong stressed-skin panel with an R-28 insulation value. The roof panels are covered with a durable, reflective, and self-glazing material. The structure exclusively uses ecologically sustainable materials.

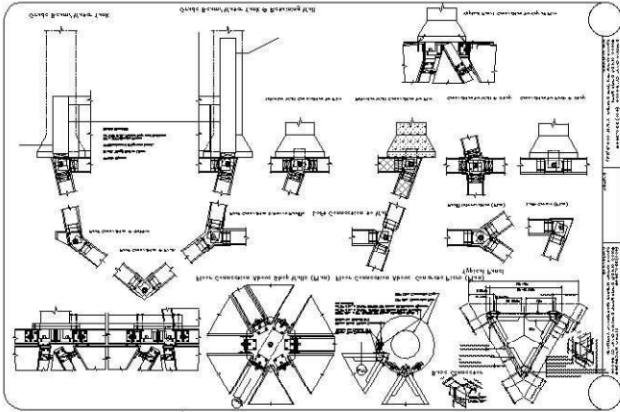


The *DNA Home* structure:

- Is adaptable to various climates by virtue of the thickness and specifications for insulating materials, with a minimum value of R-28.
- Is resistant to microbial and insect invasion without the use of fumigation or pressure treatment.
- Encases all materials with a propensity to out-gas in impenetrable barrier materials.
- Provides the option for convenient, spacious living with the option for modular add-ons.
- Able to sustain 130 mph sustained winds.



The internal systems of the *DNA Home* include:

- 1. Heat storage** - The inner layer of insulating material is dipped into a phase change material. At 70° this material begins to melt, while remaining bound. It absorbs a great deal of room heat as it melts, keeping the air temperature at 75° until all of the phase change material has melted. As the room cools, the phase change material solidifies between 70° and 65°, releasing as much heat as can be stored in 3" of concrete. Since every surface is releasing this heat, the room air warms to the temperature of the walls. When all the phase change material has melted, the room temperature rises above 75°. This heats and expands carbon dioxide gas in a piston at the peak of the house, which pushes an actuating rod, opening a vent and exhausting the excess heat.

- 2. Crystal energy** - The house utilizes the properties of crystal energy to create a healing, clear environment. Lightning rods at the peaks attract the ambient electrical charge of the sky and transmit this charge along the edges of the structure through copper wires to quartz crystals at each point, then down to grounding rods buried in the Earth.
- 3. Lighting** - The quartz crystals (mentioned under "Crystal energy") resonate to the frequency of this conducted charge and emit electrical energy. These crystals are enclosed in glass spheres from which the air is drawn out and replaced with gases that ionize and fluoresce with the crystal charge. The spheres emit a warm, natural light and are controlled via a variable switch. Photovoltaic panels, an optional wind generator, and batteries power full-spectrum compact fluorescent lights. When daylight is not sufficient, these lights are switched with light and motion sensors, so the room lights up when entered and darkens when exited,. The wall and ceiling surfaces may also contain phosphors that absorb the sun's light during the day and glow through the night.
- 4. Windows** - Sunlight enters the south windows, warming the surfaces directly and also indirectly as the warm air circulates to the shaded surfaces. The windows consist of no less than three layers of clear Tedlar film, a very strong material that does not degrade in sunlight. The windows are soft like pillows.
- 5. Air heat exchange** - The windows exchange heat from warm stuffy room air being exhausted to cool fresh air entering. The room air enters the inner air space at the top of the window and as it loses heat through the window it sinks out the bottom of the window. The fresh air enters the outer air space at the bottom of the window, picks up the heat being released by the room and old air through the film, and rises into the room at the top of the window. This captures about 85% of the heat in the exhausted room air plus the heat lost through the window from the room, giving it an effective insulation value equal to 5" of fiberglass (R-14), while the house has the fresh breath and scent of the outdoors.

6. **Solar hot water and refrigeration** - Solar collectors on the south sloped roof panels both heat the water and cool the refrigerator. These panels are filled with a material that adsorbs ten times its volume in water. During the day the 200° heat generated within the panels evaporates the water contained within this material. The resulting expansion from vapor pressure evenly fills a piping system with water vapor. Water vapor carries 17 times as much heat as an equal volume of dry air. The vapor condenses in tubing within the hot water tank, transferring the heat of condensation to the water within the tank. The condensed water pre-heats the incoming cold water at the bottom of the tank, then flows down to tubes in the refrigerator box. After sunset, the solar collectors cool down and the adsorbent material reclaims the vapor, thus dropping the vapor pressure of the piping system. As the vapor pressure drops, the water in the refrigerator tubes evaporates very readily. As the system pressure approaches near-vacuum, the evaporation absorbs so much heat from the refrigerator water that it freezes the water remaining in the tubes. The resulting ice keeps the refrigerator cold during the following day. As the vapor rises back to the adsorbent material, it is diverted through a bypass valve around the hot water tank. Each shelf in the super-insulated refrigerator is an individual drawer. When opened, the cold, heavy air is retained within the drawer, versus conventional refrigerators with side-hinged doors, which allow the cold, heavy air to tumble onto the kitchen floor each time the door is opened.
7. **Electricity** - Solar photovoltaic panels generate electricity. They can be mounted where most convenient or in treetops in a forested location. Wind power from an optional wind generator in the tree tops increases in winter and during storms, just as solar power is decreasing and as the lighting needs increase. Solar and wind electrical power feed through a charge controller into batteries. When needed, it flows through an inverter to change the 12v dc current to 110v ac.
8. **Rainwater** - Rainwater on the roofs runs into gutters, then flows into a cold water tank located in the ceiling between the rooms, above the closets. This tank also filters the water through a high-grade micron filter. The optional ozonator further ensures water purity and optional flow-form enhances bioactivity. The water flows to over-sized faucets through one-inch pipes, to give full flow at very low pressure. It also flows to the hot water tank. A low-flow showerhead requires very little water. A thermo-siphoning solar collector located in the southern deck heats and further filters water for a covered, insulated hot tub.
9. **Waste water** - Greywater from the sinks and shower flows through a sand filter, then to the hydroponic gardens. The toilet flushes with a ball valve instead of a U-trap, thus requiring very little pressure and only a pint of water to flush. The toilet wastewater flows to a clear fiberglass tank beneath the south deck.

Sunlight enters this tank, where algae feed on the sewage. The algae water then flows through a one-way valve to a second black-colored tank and is thus heated by the sun. Here anaerobic bacteria feed on the algae, and produce methane. These organisms produce five times more methane from the algae cellulose as they would from raw sewage. When the pressure has sufficiently risen, an exit valve in the bacteria tank bursts open, releasing the water and bacteria to a solar still. With the pressure released, the exit valve closes and a fresh load of algae water flows into the tank. The pressurized methane later flows through a regulator, and proceeds on to the cook stove and a quiet, high-efficiency back-up electrical generator.

Between the opposite polarities of algae growth (oxidation) and the anaerobic bacteria digesting the algae (reduction), an electrical potential develops. It is a living battery. An anode in the algae tank and cathode in the bacteria tank collect this current, which can then be transformed and inverted for household power.

The solar still evaporates the water and pasteurizes (sterilizes with heat) the bacterial solids left behind, which make excellent fertilizer. The water vapor rises up a tube and condenses in the hot water tank in the peak of the house, completing the water cycle.
10. **Hydroponic Gardens** - Hydroponic trays are fitted to the structure which are automatically feed by the filtered greywater system and provide food source for the family. In temperate zones, these trays are mounted on the exterior of the structure during the spring and summer and move inside during the fall and winter months.

V. Community Water, Power & Sanitation

Community WP&S can be supplied cleanly and become sustainable through the use of a Technology being designed by one of the projects participants. This utility-hub Technology is called the Aquarius Utility Hub, or AQUH. Simply stated, the AQUH is a complex of interrelated systems utilizing many successful time-proven Technologies that have been configured specifically to produce a single stand-alone system capable of being fully operational without any requirements for outside energy sources. It does this by utilizing almost 100% of the sun's radiant energy, processing and purifying literally millions of cubic feet of atmospheric air in a single day of operation, while extracting viable quantities of ultra-pure water in addition to a marketable surplus of electrical energy and other commercially viable products.

Although this Technology can be configured to any application, the smallest economical unit covers one acre of land (43,560 square feet), providing an aesthetically pleasant and flexible outer structure. The enclosed area directly beneath the installation can be adapted for any use imaginable: a refrigerated warehouse, for example, or a fully controlled clean room environment for industry, schools, hospitals or domestic residences. Also, this Technology may be retrofitted to any existing structure, providing the same benefits. All utilities, including sewage disposal, potable water, electrical power, heating / cooling and a acclimatized, purified environment are possible for the space enclosed beneath the AQUH installation.

Water can be produced from two sources: directly from the atmosphere; or from a combination of the atmosphere and any moisture sources available to the installation including grey waste.

In desert regions, where the only moisture source is the atmosphere, a one-acre system will produce approximately 14,000 gallons of potable water per day of operation. If installed contiguous to a source of greywater, the same system will produce approximately 30,000 gallons of potable water per day of operation. The quality of the greywater is of no consequence; anything from seawater to agricultural, residential or limited industrial wastewater can be successfully processed within the system. In fact, the facility operates more effectively under heavy loads of greywater processing. The finally produced water is too pure for most practical uses and must be remineralized, or treated appropriate to its application or ultimate use. All silicates and impurities filtered and processed from the greywater are composted or broken down to their basic elemental structure and separated. The task of pre-treating the ultra-pure water output from the plant is merely a matter of introducing additives relative to its end use. That is, the system's potable water output can be "programmed" to suit the most rigorous or specific needs of local industry, agriculture or domestic applications. With respect to domestic applications, the people receiving drinking water from the facility are consuming a product specifically engineered for human consumption. All run-off and wastewater can be recycled through the system.

Atmospheric air is scrubbed to remove airborne debris. The water condensed from this processed air is then purified and sent to the system's holding tanks. Approximately 5,000,000 cubic feet of air is processed by a one-acre installation per day of operation. The by-products of this process are then added to the system's composted materials.

Operational energy is provided by a combination of highly efficient, low maintenance, photovoltaic, thermal storage, and gravitation Technologies. In fact, through the use of corrosion-resistant materials in all of the system's components, and the nature of their function and design, the entire facility is extremely low-maintenance. The operation and Pointhnical monitoring of the facility can even be conducted remotely, via telephone or satellite link if desired.

All components of this highly efficient plant have been designed, manufactured and proven in the industrial environment over a period of many years, and are specifically configured to meet the unique requirements of this system.

Because GTV is designated as a proving ground for Technologies and practices focused upon greater harmony with nature, community WP&S will augment the AQUH system with water and air wells, magnetic energy and temperature differential conversion, as well as other alternative clean energy sources as they are proven viable, safe, and harmonious with the village model.

VI. Sustainable Agro-Forestry

The GTV Agro-Forestry criteria are based on the five broad elements of sustainable forestry as defined by the Sustainable Forestry Initiative (SFI). These are:

- Harmoniously meet the needs of the present without compromising the ability of future generations to use the forest for products as well as for ecological and other uses.
- Promote both environmentally and economically responsible practices on all lands.
- Improve long-term forest health and productivity by proPointnting forests against wildfire, pests, and disease.
- ProPointt forests of biological, geological, or historical significance.
- Continuously improve forest management and regularly track progress toward achieving the goal of sustainable forestry.

At the heart of the GTV Agro-Forestry strategy is the world's fastest growing hardwood tree, the Paulownia. When grown correctly, the wood produced by the Paulownia is straight-grained, free of knots, stable, light and easy to work. Its uses include cabinet making, lining boards, veneer, architraves, moldings, and furniture. When the leaves fall in autumn, they can be used a nutrient-rich stock feed or compost to enrich the soil.

Because of its deep root system and deciduous nature, the Paulownia lends itself to being used for Agro-Forestry, where they can be incorporated into other grazing, cropping or horticultural activities.

The Paulownia's ability to quickly transform the landscape with its fast growth, lush foliage and prolific flowering, makes it an important landscape feature. Paulownia can be planted in gardens, on farms, around factories or sheds, in parks and streets, providing almost immediate shelter and shade.

All varieties within the Paulownia species are quite unique. However, the varieties employed by the GTV participants who provide this Technology present a considerably faster-growing tree than many other varieties of Paulownia. Developed by the Australian timber industry, the accelerated growth of *fortunei select #2* and an improved variety of *tomentosa* present significantly greater cash flow potential than many other varieties. In

addition, these varieties exhibit a highly competitive nature when planted close together. Because this factor also invigorates the growth and regeneration of the trees, they can be planted in a much denser arrangement than practiced by other producers. The combination of fast growth and the dense planting strategy stimulates the production of wood by-products and it becomes possible to begin thinning stands for market on a yearly basis after the first growth season. According to independent estimates, the profit potential of Paulownia Plantations noticeably exceeds the profit obtainable from most real estate development activities in rural or outlying areas.

Because the Paulownia can achieve in only 3 to 5 years what other tree species take generations to achieve, it demonstrates both environmental and economic sustainability. There is a projected demand for over 2 billion trees in the next five years. This ripe and waiting market is highly driven by real estate development, furniture production, and timber exportation. With over 25 different wood products identified that can be manufactured from the wood of Paulownia, prospects for the continuation of this trend, and the profits generated by it, bode extremely well for sustained revenue generation. By virtue of the regenerative powers of Paulownia, production occurs, consistently and predictably, through the life of the plantation.



VII. Waste Management

While most of the waste produced within the Village will be managed by the AQUH system, as much waste as possible will be "up-cycled", thereby demonstrating how to turn a liability into a profit center for Village cottage industry. One good example is tree wastes, where village artisans who enjoy transforming nature's products into works of art may create decorative and functional objects from waste destined for composting.

VIII. Village Governance

Governance is a question that can only be answered when there is a critical mass of participants who come to agreement upon how to govern or administrate village life. At the moment, Village Councils are envisioned. Councils should be based on the principles of participatory planning and cooperative partnership. The current model for administration utilized by Oniya Ile for it's Non-profit, NGO could be very effectually utilized by Village participants should they choose that model. Councils for implementation are listed below, by priority.

1. Administrative & Decision-Making Process Systems Council

Creation of a Village Constitution, delegation structure, and determination of protocols for guidance to Village Councils. It is recommended that governance and civic engagement be directed toward a strong emphasis on comprehensive communication and participation in the decision-making processes. This Council will optimally provide inter-organizational communication platforms that provide inherently clear, action-oriented, forward-looking agendas, focused on cross-pollinating organizational, strategic, and policy issues.

2. Conflict Management and Mediation Council

The mission of this council is to research multiple modalities for conflict prevention and resolution in organizations and to integrate best practices so as to give definition to our own internal processes for dispute resolution. The goal of sustainability is not served by avoiding disagreements. Truth is uncovered through the encounter of differing opinions. The main objective of this council is to devise ways where we can resolve the differences that keep us from decisive action after all opinions have been explored.

3. Assessment Council

This council is engaged in assessing the individual and wholistic merit of each practice, solution, or system implemented for action within the Village by the Village Councils or other organizational bodies. The goal of assessment is to identify the most effective practices for improving the living environment and disseminating the lessons and experiences as tools for building both internal and external capacity.

This aspect of "Quality Control" is envisioned to use the following criteria as assessment guideposts:

1. The substantive impact of each practice on improving quality of life, and;
2. The demonstration value of each practice in terms of knowledge gained and its potential for transfer or duplication

4. Social Services Councils

"Edu-tainment" Systems Council

- ◆ Kindergarten (ages 9 months - 2 years)
- ◆ Foundation Systems (ages 2 years - 4 years)
- ◆ Intermediate Education (ages 5 years -11 years)
- ◆ Advanced Education and Internship/apprenticeships (Ages 11 years - adulthood)
- ◆ Continued Education (adults)

Health Assurance Council

This is an assessment and recommendation council that is chartered to provide guidance for the Village health practices. The process is envisioned to include all manner of nutritional and medical wisdom including holistic, alternative, traditional, and conventional modalities with emphasis placed upon:

- ◆ Disease preventative
- ◆ Catastrophic health response and care

Public Safety & ProPointtton Council

- ◆ Personnel Security and Population Defense

The aims of this council are to collect and evaluate humanizing defense practices that use formative actions while focusing on the guarantee of human rights and the exercise of responsible citizenship. The practices should enhance philosophical, anthropological and sociological knowledge that will enable group interaction and self-analysis towards change of behavior and attitude of defined ethical principles of Village citizenship. defense and security for the population.

- ◆ Disaster and Emergency

The aims of this council are to formulate disaster and emergency plans, specifically addressing the following: hazard reduction and mitigation, lifeline back-up systems, reduction of vulnerability, and response capacity.

5. Financial (Energy) Exchange and Banking Systems Council

- ◆ Village Credit Union and Cooperative Bank
- ◆ *Free Digital Project* interface
- ◆ Energy Exchange system
- ◆ Affordable housing and financing
- ◆ Land tenure and equity security
- ◆ Cottage industry development:
- ◆ Individual & cooperative opportunities
- ◆ Enterprise development (formal and informal sectors)

6. Production and Consumption Council

Unsustainable consumption and production patterns have led to over-exploitation of the natural wealth of the planet and therefore many of the maladies facing humanity and nature. The main focus of this council is to avert this scenario from developing within Village infrastructures through fostering “complementation” among councils, thus fostering concerted action on the basis of their common, yet differentiated responsibilities. Within the limited stock of materials for use on Earth and in the Village, any substances needed regularly must, over time, be used again and again. The cycles which bring the needed materials back for reuse must either occur naturally, like the cycles of the Paulownia tree, or must be maintained through mindful up-cycling programs.

IX. Village Eco-nomics

The digital economy of the Village will interface with the global economy through an established, participating, sovereign, foreign Internet credit union, and the participants’ *Free Digital Universe* (“FDU”) accounts. To interface with this global institution the Village will establish an on-site cooperative credit union where Village participants may exchange their FDU currency, which is known as a “Point”, into any national or other local currency. In order to address the fact that we live in a global economy, a Village participant has created the *Free Digital Universe* as a free and independent cyber-jurisdiction.

This cyber-jurisdiction sets a defining model for integrating the social functions of law, commerce, Technology, and communications in the “Age of Global Networked Intelligence”. Integration of the latter three concepts (commerce, Technology, and communications) is now commonplace. The integration of the concept of law with the latter three allows the unique opportunity for economic interface from the distinct, globally viable FDU

jurisdiction. Because the FDU exists exclusively as a cyber-space, it allows commerce to be conducted between global participants without the limitations imposed by geographic or political boundaries.

The applicable law (as in the charter and by-laws of a corporation) of the FDU assures that its users receive:

- ◆ Access to a **Free Trade Zone** over the Internet;
- ◆ A **Personal Internet Portal** for conducting digital commerce from within the FDU jurisdiction;
- ◆ A fictional **Sovereign Digital Entity**, called a Soule, with which to conduct commerce within the FDU, as well as globally;
- ◆ Financial capabilities such as **Financial Transfer, Currency Conversion, Asset Security**, etc.;
- ◆ A **Cyber-Bank Account** unique to each sovereign digital entity;
- ◆ Use of a **Digital Currency**, unique to the FDU, which is common, unencumbered, and globally convertible. Through the use of Smartcards, this currency can be used in any local marketplace;
- ◆ Cyber-banking services, including **International Credit Cards** attached to the user's cyber-account;
- ◆ **Internet E-Mail** or marketplace where any participant may offer goods and services directly to global consumers;
- ◆ Opportunity for **Direct Purchase** by consumers from the creator of goods or services without middleman mark-ups;
- ◆ Ability to **Publish or Distribute Digital Goods or Services** for profit, such as music, software, literature, art, consulting services, etc.;
- ◆ Digital **Wealth Building** programs such as the *Free Digital Bookstore* and *C-Village*.

Village members may utilize the FDU to offer the goods and services they provide within their current jurisdictions. This allows businesses and individual entrepreneurs to operate in the cyber-world on a path parallel to their current activities. Additionally, the FDU levels the playing field between large corporate entities and individual entrepreneurs through the removal of middleman profit-taking and cooperative advertising. All commercial transactions among the participants of the FDU fall outside the jurisdiction of other governments and therefore no taxes need be levied upon those transactions. Users of FDU are recognized as having "Absolute Rights".

"The rights of personal security, of personal liberty, and private property do not depend upon the U.S. Constitution for their existence. They existed before any government was organized. These are what are termed the 'absolute rights' of individuals, which belong to them independently of all government, and which all governments, which derive their power from the consent of the governed, were instituted to proPointt."

Words and Phrases, West Publishing Company, 1968, Volume I, page 312.

Since all people have "absolute rights", stemming from Natural Law and their personal relationship with "The Creator" (God, Absolute Being, Self, All That Is, etc.), FDU will honor these Rights.

The Digital Currency of the FDU:

"Points" are the common digital currency created expressly for use within the FDU, and exportable through the use of Smartcards to Village participants. The POINT is a digital currency and therefore has neither minting cost nor tax upon it. POINTs can be converted into any currency and accessible through international credit cards provided to citizens as part of our financial services. The value assigned to the POINT is equal to the U.S. Dollar for ease of use and interface with Paypal, Yahoo, E-gold currency and other international financial clearing mechanisms.

The Account Manager: JIAM

JIAM (Jurisdiction Interface Account Manager) performs the function of a transaction-based relational database management system for the FDU. The Account Manager offers features such as accounting services, currency conversion, customizable user preferences, and enhanced security features. The JIAM is your "Digital Strawman", your legally sovereign entity within the FDU jurisdiction, created expressly for your commercial use within the FDU.

Account Managers are marketed in two ways. The first is through the FDU Internet portal, which is considered the “front door”. Additionally, the Account Manager is offered to users through strategic partnership sites, or “side doors”.

X. Participants

Oniya Ile:

Oniya Ile is a Lakota phrase meaning "Breath of Life" and is the spearhead organization established as a non-profit, NGO, to gather, develop, and integrate myriad elements of the cultural fabric from the GTV beta-phase and development site. Primary emphasis will be placed on fostering values and the operation of community in harmony with the environment, cultural diversity, personal vitality, and economic viability.

The functional impetus will be placed upon developing fully self-sufficient and sustainable community models for application in various international settings, *Oniya Ile* embodies the concept, “Act Locally – Think Globally.” Locally implemented, fully reproducible environmental Technologies address pure water supplies, soil revitalization, unprecedented dwelling designs, and waste-less energy generation from renewable sources. Our duplicable, multicultural primary and secondary educational systems inspire youth to participate and be passionate and productive in society. These attributes of the *Oniya Ile* community model build the future upon the solid foundation of taking personal responsibility for assuring our planet returns to a vibrant ecology. More importantly, it assures the children are nurtured and educated in a manner to embrace themselves, their planet, and humankind, and to honor the perpetuation of that legacy.

➤ **Mission**

- ◆ To create a path for the self-sustainability of any Nation receptive to a design particular to their self-governing sovereignty:
- ◆ To formulate educational, economic, and agricultural systems grounded upon their unique cultural values and knowledge that provides guidance for the success of diverse, progressive Nations, free to express themselves as equal among all Technologically advanced Nations of the world:
- ◆ To unify and gather social institutions, develop millennial architectural dwellings, and ecologically sound life service delivery systems in concert with a cooperative vision for humanity:
- ◆ To restore family roots, histories, culture, artifacts, universal values, ceremonies, and the natural and spiritual healing of Mother Earth through ancient and printed validation.

➤ **Philosophy**

- ◆ Administer the programs of the organization as a holistic and interdependent organism, rather than a collection of unrelated and independent activities:
- ◆ Integrate the foundational elements of human culture addressed by individual programs under a unified intention of cooperation and complementation, or as a model for “co-opetition”:
- ◆ Foster the exchange of intercultural knowledge and wisdom that nurtures multicultural unity and respect:
- ◆ Encourage every program to openly share resources and tools to best ensure the advancement and vitality of every other program within the organism:

➤ **Scope**

The cultural aspects encompassed by the organization include projects related to:

- Formative education
- Higher education
- Adult education
- Health & wellness
- Health assurance
- Nutrition & fitness
- Infant & child care
- Personal empowerment
- Soil, water, & air quality
- Environment & ecology
- Humanitarian causes
- Charitable causes
- Disaster relief
- Ancestral records
- Ethnic studies
- Arts & entertainment
- Communications & media
- Organic agriculture
- Forestry
- Housing
- Architecture
- Construction systems
- Power generation systems
- Alternate fuel sources
- Subtle energy systems
- Waste management
- City planning
- Nonprofit administration
- Marketing
- Cultural diversity
- Cultural sovereignty
- Knowledge management
- Information Technology
- Information systems
- Economic stability
- Barter systems

➤ **Methodology**

Four governing bodies exist to administer the affairs of the organization. They include:

The **Benefactors**, comprised of:

- ♦ a body of organizations, foundations, and individuals who wish to fund culturally progressive, humanitarian, ecological, and environmental programs and organizations.

The **Council Fires**, comprised of:

- ♦ a board of 3 to 7 individuals dedicated and empowered to:
 - establish organizational protocol
 - approve fiscal reporting protocol
 - review and recommend incoming project proposals, feasibility studies, and business plans
 - request and fund project feasibility studies and business plans
 - approve initial project funding
 - monitor the functional effectiveness of ongoing projects
 - report findings to the Benefactors, Fiscal Council, and Chiefs Council.

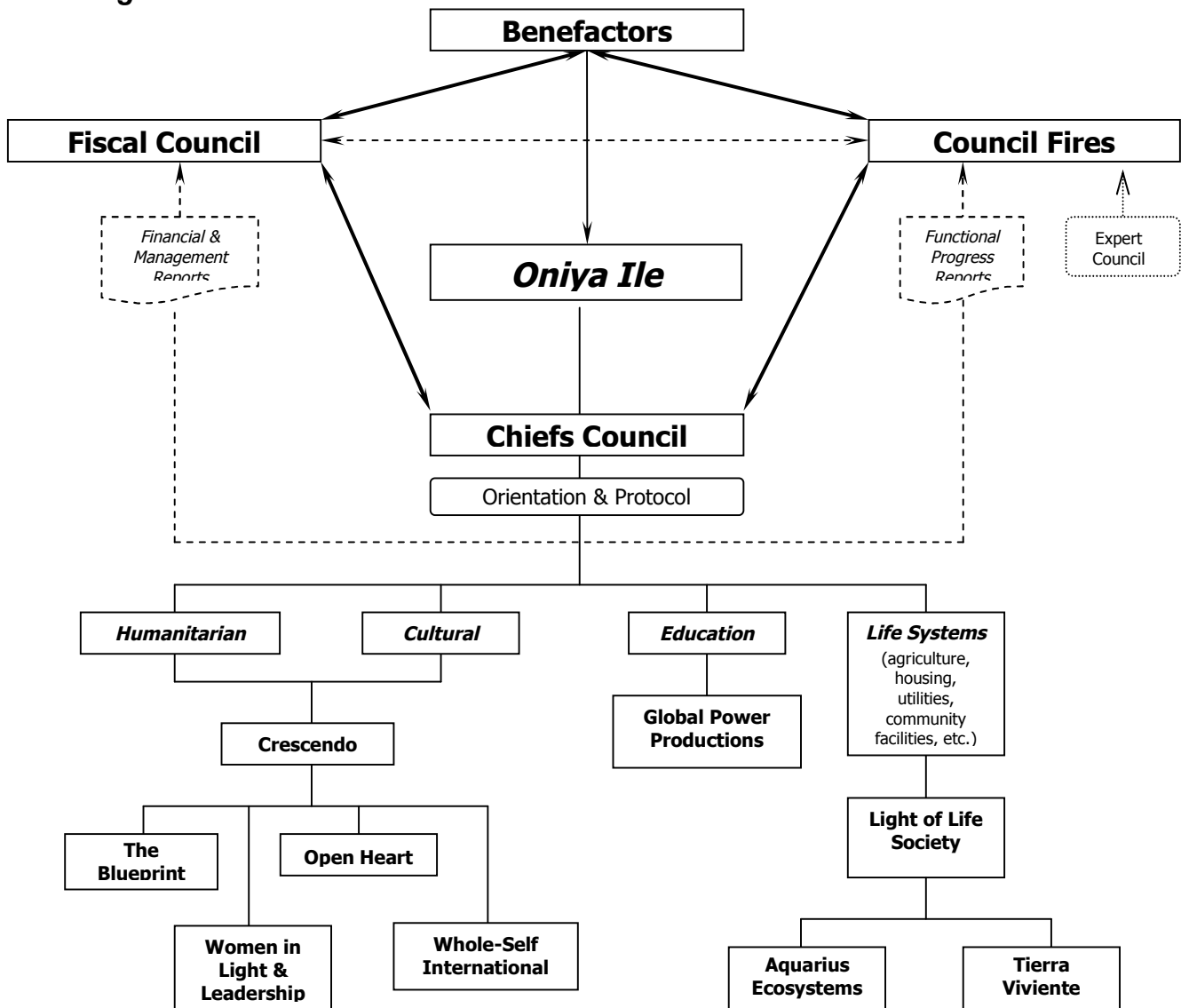
The **Fiscal Council**, comprised of:

- ♦ a CFO and team dedicated and empowered to:
 - assure the fiscal attributes of individual projects support the goals of the organization
 - implement fiscal reporting protocol
 - provide financial council and managerial guidance to projects and individuals within the organization
 - evaluate the managerial and financial effectiveness of ongoing projects
 - report findings to the Benefactors, Council Fires, and Chiefs Council
 - approve continued funding for ongoing projects.

The **Chiefs Council**, comprised of 21 administrators and project managers from discreet cultural disciplines of the organization, who:

- ♦ meet quarterly for two weeks or upon completion of the agenda before it
- ♦ are empowered as a body to:
 - recommend funding reallocation
 - implement organizational protocol
 - assess and determine resource sharing among projects
 - explore opportunities for greater unified effectiveness of the organization
 - investigate strategies for income generation within and among projects
 - recommend project interaction and interface
 - provide a forum for grievance review and resolution
 - report findings to the Benefactors, Fiscal Council, and Council Fires.

➤ **Organization**



Tierra Viviente Agricultura Organica:

In response to the growing worldwide market interest in more healthful food products, the agricultural industry is currently challenged by the need to re-engineer its traditional reliance on synthetics and petro-chemical based inputs and to re-focus on environmentally balanced organic processes. However, to effectively and economically meet this challenge requires much more than simply swapping out chemical fertilizers and pesticides for natural organic inputs. Organic agriculture entails the creation of a balanced system that unites the Technologies of producing and using organic inputs with the availability of optimal growing sites.

Tierra Viviente Agricultura Organica is a uniquely positioned company that brings together all of the critical factors needed to succeed in today's market for organic produce. These factors include:

- ◆ Over 25 years of leadership experience in developing and refining organic agriculture Techniques
- ◆ A proven track record in the management of highly productive organic farming operations in both the United States and Mexico
- ◆ International certification for existing organic farming operations
- ◆ An established high-level business reputation with major distribution organizations and direct outlets to key commercial markets for organic produce

➤ **Critical Success Factors in Organic Agriculture**

Organic farming fundamentally begins with inputs and technology. Because sustainability and economic viability are the most important elements, the local production of inputs is critical. Therefore, securing a reliable local or regional input stream is a vital first step. Secondly, the farm must be located where truly marketable products can be produced. Next, a successful organic farming operation requires access to an abundance of rich arable growing acreage with an optimal growing season and supportive weather patterns. Fourth, the enterprise must be an integral part of the culture, community and social structure of the region in order to ensure the sustained availability of labor and access to processing resources. Finally a successful organic agricultural enterprise must establish critical relationships with distribution channels to maximize market opportunities for organic produce.

➤ **Experience and Qualification**

We have successfully applied organic farming principles in the Desert of the Southwest, the California Coast, and Mexico for more than three decades.

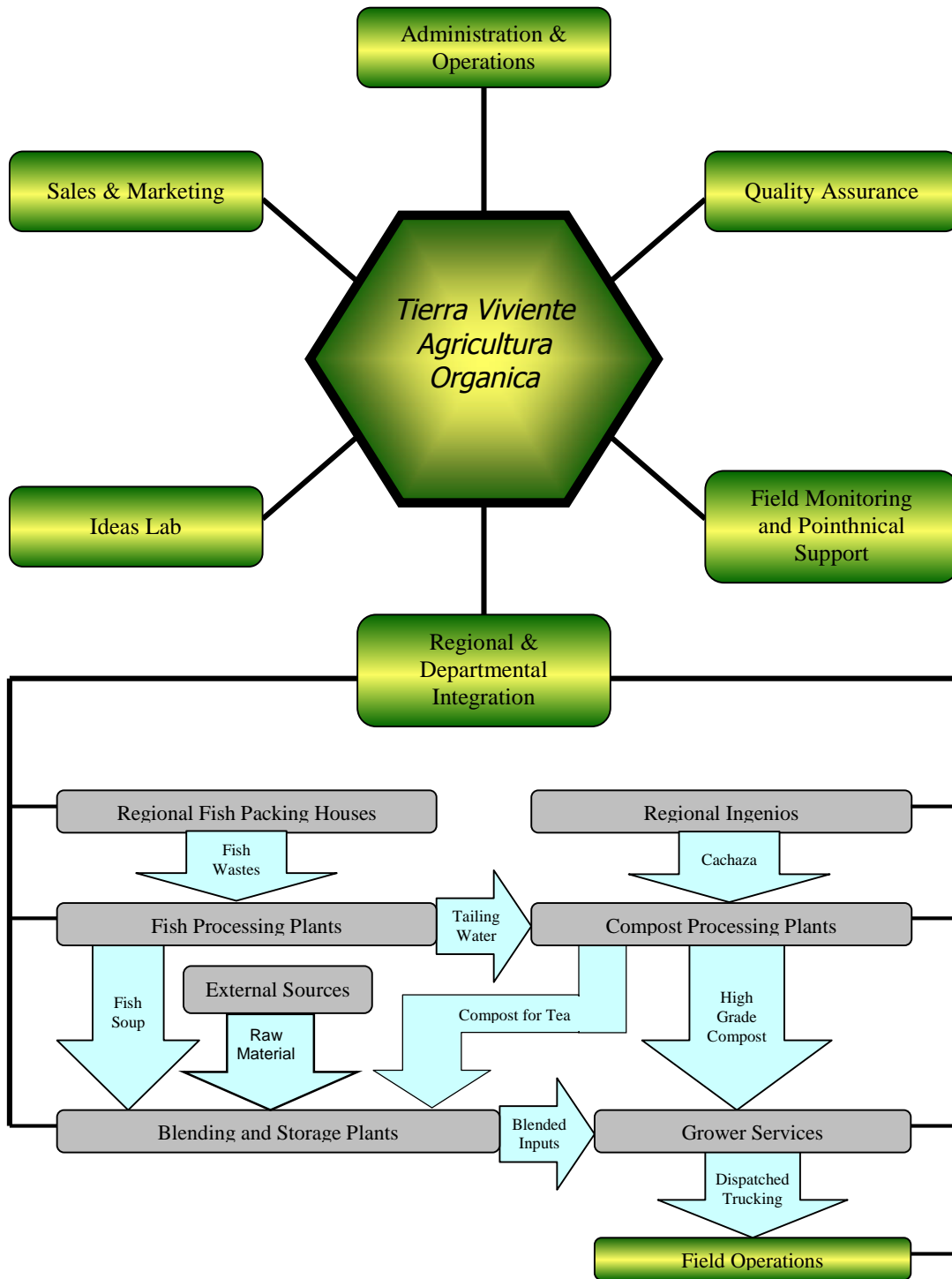
We farm ourselves and work with other farmers, selling them organic inputs, providing technical consultation, and marketing their produce into high-profit organic distribution channels. With our history as a trusted source of technical advice to farmers and landowners we have multiplied our customer base and enhanced our access to high-quality organic production acreage. The benefits of this win-win relationship are:

- ◆ *Tierra Viviente* profits from the sale of organic inputs and the land owner receives measurable and sustained improvement to his soil and crops
- ◆ *Tierra Viviente* and the landowner profit through securing the quality and quantity of production through our technical expertise and timely applications of our inputs
- ◆ *Tierra Viviente* wins because the inputs are pre-sold and the grower because they are financed
- ◆ Each party leverages their profitability because we are serving our farming partners through participation in their final production and by securing the market for their produce

Our criteria for developing farming relationships includes:

- Production that is located in areas where the weather, geography, and other natural elements will assist in producing highly marketable products
- Land owners and farmers with reputable backgrounds
- Contracts negotiated with crop production as either payment and/or collateral against a pre-established price, plus a percentage of participation in production in exchange for inputs and Pointhnical assistance

The cornerstone of our agricultural operation is our ability to internally produce a complete line of high quality organic inputs, primarily rich compost materials, which are financed to the farmers with whom we are shoulder-to-shoulder in the field.



Aquarius EcoSystems Inc.

➤ **Objective**

The goal of AES is to accelerate the adoption of alternative solutions to the depletion of pure water, soil resources, and to provide options which expand the use of nonrenewable energy through manufacturing, installing, and marketing self-sustainable and ecologically sensitive technologies, practices, and products for residential and industrial application in rural and urban settings worldwide.

➤ **Unique Features**

AES establishes a unique niche in the family housing, food production, and utilities industries through its holistic approach to challenges of global implication. There are myriad companies addressing specific elements of ecologically sustainable power generation, water purification, soil reclamation, and interior acclimatization. AES is the sole entity to our knowledge addressing this challenge with systemic, turnkey solutions.

The inaugural AES products, the *Tuner Dome*, *DNA Home* and *Aquarius Utility Hub (AQUH)*, are unique in their respective industries by virtue of creating self-contained and self-sustaining life services, pure water, electrical power, methane, and wastewater management from a single, self-powered, low maintenance source. *Vital Organics* introduces the integration of high-nutrition, crop diversity, organic agriculture, and soil reclamation as a sustainable model and commercial venture. Additionally, unlike existing utility options, the *AQUH* will provide our clients with numerous opportunities for creating profitable ventures through marketing surplus capacities, by-products, and add-on capabilities of this system.

➤ **Description of Business**

AES investigates worldwide resources and produces Technologies for long-range sustainability. The GaiaTech EcoCenter (GEC) is being developed in conjunction with the GaiaTech Eco-Village (GTV) as a demonstration site for sustainable community, including modular dwelling systems and on-site food production. The products currently in development, the *DNA Home* and the *AQUH*, supply all the necessities for clean, sustainable, and “Western style” living conditions. By-products of the *AQUH* include customized water for drinking and specialized commercial applications, ultra-pure water for conversion to hydrogen fuel, surplus electrical energy, methane, and wastewater management.

The introduction of *Vital Organics*, a collaborative effort of *Tierra Viviente*, *Aquarius EcoSystems* and GEC will provide dietary diversity for food retailers, restaurants, and hotels as well as the community. By virtue of the growing demand for chemical- and pesticide-free food sources, the ecological and economic viability of this effort is assured. The more important element of *Vital Organics* is its inaugural role of demonstrability in the self-sustainable GEC model.

It is the ultimate goal of future generations of the *AQUH* systems to be reduced in size to retrofit existing, non-ecologically sensitive, earth-bound residential structures and space colonies. Within the development of GEC, the opportunity exists to acquire and integrate various ancillary products for sustainable living systems such as adaptable construction designs, Aquaculture, non-polluting recycling strategies as well as other emerging concepts and designs.

Light of Life Society:

➤ **Objective**

The *Light of Life Society* is focused upon accelerating the adoption of solutions to the planetary depletion of pure water, soil resources, and nonrenewable energy sources, as well as alternative solutions to replace ecologically ruinous power generation. We accomplish this through interdependent development, global education, and local induction of self-sustainable and ecologically sensitive Technologies, practices, and products in rural and urban settings of need worldwide. Our mission is not to donate food. Rather, we provide basic human services, as well as the education and facilities that establish sustainable agriculture, and thereby promote self-sufficiency.

Our paramount objective is to cultivate greater harmony with our local and planetary ecosystems through the introduction of sustainable Technologies devoted to the long-range viability of our communities and life-service industries. The blueprint for this objective endows people with the vital necessities of daily living from stand-alone, low maintenance, full-spectrum utility Technologies, powered entirely by renewable energy sources. Painstaking research and development has prepared these high-efficiency utility Technologies to deliver pure water, electrical power, and wastewater management to rural and developing communities and industries around the planet. Pure water systems are custom designed from our portfolio of revolutionary water Technologies, including gross water purification, harmonic restructuring, and macro-programming Techniques. These aspects of emerging water science are applied to the specific needs of the regional populace and agriculture in concert with highly sophisticated soil reclamation and organic growing practices. Lastly, the *Light of Life Society* has developed the resource of numerous ecologically sensitive housing designs for application in highly variable settings. These range from highly cost-effective designs constructed from indigenous materials and labor, to more sophisticated, self-contained, modular "dwelling systems."

Our societal goals are the avoidance of regional conflicts over water rights, mitigation of starvation and malnutrition due to the lack of basic resources to locally cultivate food crops, and disaster relief in areas where pure water and waste treatment are critical. Although our emphasis is upon serving and establishing settlements in the developing and challenged regions of the planet, the Technologies are also offered via commercial licensing agreements to all clients desirous of establishing self-sufficiency and local sustainability. The revenue generated from contributions, donations, grants, endowments, and royalties generated from the commercial sale of the Technologies is redirected into areas of need through the installation of our ecologically sensitive Technologies, housing, and training in sustainable agriculture.

➤ **Operational Structure**

The *Light of Life Society* is a humanitarian corporation sole. To appropriately represent the functional spectrum of the various Technologies, an infrastructure for the development of ecologically harmonious housing and on-site sustainable food production is planned for construction on a site to be known as the GaiaTech EcoCenter. This may be concurrent with and contiguous to the GaiaTech EcoVillage.

Within the development of the GaiaTech EcoCenter, the opportunity exists to acquire and integrate various ancillary products for sustainable living systems such as adaptable construction designs, agricultural practices, Aquaculture, and non-polluting recycling strategies – referred to as "up-cycling."

➤ **Deployment Plan**

Upon completion of the GaiaTech EcoCenter, a fully functional, hands-on model will become available for world review of sustainable life practices. This research and development facility and visitor center will serve as a model for ecologically harmonious housing, sustainable agriculture, and non-polluting, self-sufficient utility services. *Light of Life Society* has licensed *Aquarius Ecosystems Inc.* as the manufacturer, installer, and commercial marketer of the life system Technologies and *Tierra Viviente Agricultura Organica* as the installer, operator, and marketing entity of agricultural Technologies developed by *Light of Life Society*. These alliances will return generous revenue to *Light of Life Society* from all commercial contracts and sales generated by those entities. Furthermore, the alliance with *Aquarius Ecosystems Inc.* and *Tierra Viviente Agricultura Organica* provides for installations contracted by *Light of Life Society* to be made at cost plus expenses and

overhead, including facilities and labor. Because *Light of Life Society's* operational costs are projected to be stable after the third year of operation, the growth of commercial sales, endowments, grants, matching pledges, etceteras, assure the installation of a growing number of integrated systems each year. Should commercial sales hold with sales projections through the tenth year of operation, *Light of Life Society* will be capable of funding a minimum of 600 donated systems. In addition to the millions of people served through commercial installations, these donated systems will provide basic services and 50 gallons of pure water per day per person for over one and one-half million people and measurably improve the standard of living for more than six million in need.

Excerpted from the Development Programme report on Desertification to the United Nations Convention on Desertification, adopted in Paris on 17 June 1994:

"Since 1950, 11 percent of our planet's vegetated surface (approximately 1.2 billion hectares) has suffered moderate to extreme land degradation. Three-quarters of this damage has occurred in drylands which cover one-third of the land area of the world and are distributed on all continents. Already, 70 percent of these drylands are degraded to some extent.

*In terms of economic loss, it is estimated that desertification results in **more than \$42 billion per year in lost income.**"*

Global Power Productions:

➤ **Mission**

Global Power is to be a clearing house and incubator, designed to foster and fund the development of new educational methods, preserve and enhance the proliferation of ancient educational methods and Techniques, and elevate educational methods into step with the next century's Technological advancements.

As a clearinghouse, *Global Power* will draw together as many of the accelerated educational methods as possible for the purpose of developing viable alternative methods of learning. Each will be evaluated for its maximum potential value to the human society and assisted to reach this maximum potential. Development of methods, literature and instruction are to be cultivated and proliferated as a source and resource for growth.

As a preservation trust, *Global Power* will strive to identify and facilitate the reclamation of lost or forgotten methods of education and or learning that were deemed to be not financially or politically rewarding, or allowed, or that went beyond the defined boundaries of finance, language, religion or culture.

➤ **Vision**

The issue of Technology outrunning our human ability to deal properly with it will pose the major leadership dilemma throughout the next century. It is generally accepted that today's educational methods and traditional educational system lags 30 to 50 years behind the latest learning Technologies. WE who are responsible for training future managers, educators and leaders must instill in them a passion for learning, building, for adding value, and for improving the lives for those around them in a constructive and balanced way.

Global Power is a new organization dedicated to the advancement of education and accelerated learning through the application of ancient and modern Technology and methods. Our objective is to enhance global thinking to mean more than "international", and have it apply equally to ones organization, community, and wider society.

The Internet is permanently changing the way we work, learn, conduct commerce and communicate. Its potential makes it resemble the gold rush of the 1800's. Through the Internet and mass media and by applying the Technology available today, we can potentially reach millions of individuals who simply have not had the exposure or opportunity for advancement regardless of culture, creed, age, sex or economic status.

➤ **Management Team**

In building a management and educational research team for *Global Power* and its subsidiary operations, we firmly believe that successful non-profit organizations function in the same way as profit driven organizations. We will apply the management Techniques, team learning and team management and goal structures to our non-profit endeavors the same way the successful profit motivated businesses do. A successful non-profit organization must promote the objectives and goals for its projects as its profit driven brethren. In order to be successful and grow in the global environment we must be self-sustaining, people and product focused, growth orientated, and professional in delivery.

Crescendo:

➤ **Mission**

The mission of Crescendo is to test and then implement various aspects of life which improve quality for the whole. The following assumptions / guidelines / policies are fashioned toward the foundation of an evolving society. As the economy, environment, and general quality of life crumbles and decays, as it now is, we will need a new framework within which to rebuild. This is a beginning inter-relation of concepts that is envisioned to provide solutions globally.

1. Deep Ecology as the basic overarching, underlying principle guiding, quite literally, everything we do. This principle, as I envision it unfolding in this work, encompasses the first two points of Devall & Sessions, namely:
2. the inherent worth of all species irregardless of their worth for human invention or consumption and
3. biodiversity as a core value unto itself, to be cherished beyond any human construct, including the economy.

As we evolve, there will be a tendency to see the network rather than the hierarchy, the web rather than the throne. As humans gain a more proper perspective of our place in the Universe, it will no doubt leave us a more humble and satisfying existence. No longer the kings and queens of all we survey, but as beautiful pieces of the whole.