

The Village Earth Model: Its Application to Serious World Problems

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Preface

Today the world is faced with monumental world crises. Three of these are: (1) world-wide poverty for more than half of the world population; (2) finding and utilizing renewable, non-polluting energy to replace the fossil fuels now being used which are causing environmental destruction of the planet; (3) the hostility toward the United States by the people of the poor nations particularly by the educated youth. This paper discusses how these crises might be eliminated or at least significantly reduced.

The Village Earth Model can be used to bring half of the world's population out of poverty and help to solve many other world problems at the same time. These poverty-stricken people have the innate ability to bring themselves out of poverty and become an enormous consumer market so that the effort is a win-win-win exercise for everyone including big and small business as well as wealthy and poor people.

For matters of atmospheric pollution and national security, the entire world must convert as rapidly as possible to renewable energy. Renewable energy is non-polluting and it is now economically competitive with conventional methods of producing electricity.

Worldwide polls and surveys have clearly demonstrated that the people in the poorer countries of the world envy Americans and their luxurious life style, but at the same time they have an enormous amount of hostility toward American arrogance and seeming indifference about their plight. Many of the youth in these countries, particularly those that are educated, have taken the initiative to demonstrate in a number of ways their objection to the behavior and apparent indifference of Americans. Most notable is the destruction of the World Trade Center.

The following information examines and explains these problems, and their solutions, in more detail.

Background

Because of the success of the Marshall Plan after World War II in rebuilding Europe, it was believed that the World Bank, the UNDP, the USAID and other aid agencies could bring the remainder of the world out of poverty by providing similar help. The many billions of dollars that these agencies have put into the less developed countries in the past fifty years has increased the GNP of each country and the wealth of the 20% of the population who control the country, but the number of people living in poverty (less than \$2 per day) has increased and the gap between the rich and the poor has increased. The question is: What is missing in the programs sponsored by these aid agencies? The search for an answer to this question began with the evolution and development of the Village Earth Model, which began in 1960, during a special study that became the design of the Peace Corps. It was evident, even then, that these large-scale programs were not reaching the poverty-stricken villagers.

Purpose and Objectives of the Village Earth Model

The *Purpose* of the Village Earth Model is: To address global poverty by bridging the gulf between the two-thirds of the world's population that live in rural areas and the technical, financial, social, and informational resources enjoyed by the remaining one-third of the population. To accomplish this purpose, the Village Earth Model adopts the following specific *Objectives*:

- a. Institutionalize a Participatory Orientation.
- b. Make Resources Accessible.
- c. Build a Bank of Scientific Knowledge about Sustainable Development.
- d. Establish Global Communication Networks.
- e. Emphasize In-Depth Development of Each Village and Rapid, Systematic Expansion to Other Villages.
- f. Facilitate Hard and Soft Technology Generation from Local Knowledge.
- g. Attract and Generate Indigenous Technical Ability to Rural Areas.
- h. Build a Collaborative NGO Network.
- i. Create a Collaborative Global Village Network.

These objectives are explained in detail in <http://www.villageearth.org/>.

Participatory Processes for Sustainable Development

The Village Earth Model grew out of the experiences of the author and Ed Shinn. As stated earlier, it began in 1960 while doing the study that became the design of the U. S. Peace Corps. During the years after that, the visits with Peace Corps Volunteers in the field, and working with and studying village development programs in every continent, helped to round out and mature the basic components of the Village Earth Model.

The way that the Village Earth Model is implemented is by *Participatory Practices for Sustainable Development* (PPSD). This approach to development is explained in detail in the web site: www.villageearth.org. It can be applied to the problem of eliminating poverty worldwide, and for addressing many other associated problems. The *organizational structure* and the *processes used* in the Village Earth Model are right at the grassroots of humanity where the *local people organize and plan their own programs to take themselves out of poverty* in a sustainable way by means of a "bottom-up" process.

More specifically, the Village Earth Model takes advantage of the *innate intelligence and ability of the poverty-stricken people*, and guides them in the direction of creating a *vision for the future, identifying problems preventing the achievement of this vision and then finding and implementing solutions to the problems*, so that they *do it themselves* with the help of the staff of the Service Center which is nearby and provides information and financial and other resources for them. Once the villagers have gone through this process, they *identify with and own the solutions*. This is in sharp contrast to the way most NGOs, AID, the World Bank and other "development" agencies have been operating.

Resource Access Unit

The Village Earth Model uses the Resource Access Unit (RAU) as the basic unit for development. The RAU is a critical mass of about 50,000 people (this number varies with the density of the population and other factors). Each RAU has a Service Center to provide *access to the resources* that are required for *sustainable village development*. (See Figure 1) Included in each Service Center is the *Appropriate Technology Library* of 150,000 pages on CD computer discs for all kinds of technologies that are needed for

these people worldwide. In addition to each individual Service Center for about 50,000 people, there is an International Service Center at the Village Earth Headquarters, which can be accessed at any time to find answers to specialized problems.

Service Center

The *organizational structure* for the Village Earth Model, together with the *details of the Service Center*, is shown in [Fig. 1 \(click to see\)](#). This diagram shows that each Project is composed of a number of RAUs, and each RAU is composed of villages, a Service Center, and NGOs that provide the initial staff and support system until selected villagers are trained to staff and operate the Service Center. The Service Center is a very flexible unit, which can be small and informal initially and then grow into the full staff as required to help the villages as they gradually evolve in their needs and in their level of development. The *Service Center* also serves as a *Training Center* and as a *Meeting Place* for villagers from different villages to gather to interact and discuss development ideas, projects, and programs.

A Project

A Project is about one million people, which is about 20 RAUs. What is needed is the funding and personnel for 4,000 of these Projects. A more detailed description of the Village Earth Model is on the web site: <http://www.villageearth.org/>. This web site explains the many different *components, processes and programs* of the Village Earth Model.

Self-Sustaining Villages

Using the Village Earth Model sets the stage for a village to become *financially independent and self-sustaining in a relatively short time*. Villages will vary in this regard, but the experience thus far indicates that, on the average, most villages will be self-sustaining in 5 to 15 years. This means they are out of poverty and are producing goods and services that they can export and then they are in a position to buy goods and services to take back into the village in just a few years. They are consumers of outside goods and services! In this way, they become the *greatest consumer market the world has ever dreamed of*—four billion people that today are able to consume almost nothing. Large and small business worldwide needs to be convinced that this is their golden opportunity to create markets. This concept has great potential. If the *Service Motive* is combined with the *Profit Motive*, it is a win-win situation for everybody.

Micro-Credit

A very important component of the Service Center is the advisory and support system for a *Micro-Credit Program*. This program can help the villagers to create goods and services that they can sell outside the village. Then they are able to buy and bring in goods and services to the village from outside. It is this part of the Village Earth Model that enables the villagers to become a part of an enormous consumer market to benefit themselves and others throughout the world.

Service Motive

Business throughout the world is now motivated primarily by the *profit motive, which is based on greed*. However, business needs to shift to putting equal emphasis on the *service motive* in addition to the *profit motive* for planning and conducting

business. The Village Earth Model is the ideal framework for this, because it begins small and then grows. If the Service Motive is an integral part of the Micro-Credit component, then it can incorporate this concept into all businesses, as they increase in number and they grow larger and larger in the future. Initially, today's existing big and small, national and international business can incorporate the service motive into their support for the development of poverty programs to *bring four billion people out of poverty*. In this way the Service Motive permeates business throughout the world right from the start, and it is a win-win-win situation for everybody. Each issue of the magazines: *In Business* and *Business Ethics* discusses these factors and gives examples of *businesses that have already adopted the Service Motive*.

The Lead NGO

To obtain funding and carry out the Village Earth model, NGOs are needed that have a track record of successfully carrying out large contracts worldwide—such as the Mercy Corps, the International Rescue Committee, and CARE. Such an NGO could serve in an overall leading capacity, and then have subcontracts with individual, single-sector NGOs to provide specific services related to their special interests and ability. Unfortunately, most NGOs have been operating in a “top down” method, which is in sharp contrast to the Village Earth method of operation.

This was demonstrated rather dramatically when the results were known from two studies of the long-term results of the United Nations Decade for Water Supply and Sanitation. During this decade of 1980 to 1990, pure water supplies were built for many thousands of villages throughout the world by many of the Aid Agencies. In 1995 and again in 2000, evaluations were made of some of the USA projects and it was found that only 30% of the systems were still in operation in 1995 and only 12% in 2000. The reason is that the villagers did not “identify with” and “own” these new water systems. The Americans owned them and should repair and maintain them.

In contrast, the Village Earth approach is to mainly *ask questions* to guide the villagers in finding and carrying out their own solutions to problems, and *provide resources and services* through the *Service Center* when requested by the villagers. Most NGOs also carry on *single sector* programs and projects. The *village development program* must be built up gradually by adding one sector after another to be *multi-sector* in order to lead the villages out of poverty in a *comprehensive and sustainable manner*. The Village Earth organization *conducts training programs* for NGO personnel on the Village Earth Model, including a step-by-step training on how to implement it.

Cost of Eliminating Poverty Worldwide

Cost estimates can be made based on the way the Village Earth Model is now operating in India, Nepal, Azerbaijan, and Indonesia. This past experience indicates that the Village Earth Model could be carried out for about *\$5 per person per year*, and it would take about 5 to 15 years for each village to become independent of outside support. This means that for a single project of 20 RAUs (one million people) \$5 million per year is needed. Assuming that four billion people could be reached during a 20-year period, poverty in the world could be eliminated for a total of about *\$150 billion spread over 15 to 20 years—a small fraction of the present American military expenditures*. And business worldwide would have an unbelievable consumer market available.

Other Global Problems

Most of the “20 Global Problems” that J. F. Richard identifies in his book, *High*

Noon—20 Global Problems, 20 years to Solve Them, could be solved at the same time, as a part of the development activities of the Village Earth model. The Village Earth Model provides a framework—*organizational structure, operating procedures, and motivational techniques*—for addressing these problems, including poverty, hunger, disease, illiteracy, violence, environmental destruction and pollution, deforestation, migration, education, profound ignorance and delusion, population, energy, disempowerment, intolerance, and integrative medicine. Each of these problems can be incorporated step by step into the *multi-sector* approach of the Village Earth Model. The single-sector NGOs, and the other Aid Agencies that wish to support single sectors, can make their contributions in coordination with the lead NGO.

International Peace Corps

An *International (Worldwide) Peace Corps* under the *United Nations* would provide capable, inexpensive personnel to work in the Service Centers and the villages. At the same time, this would provide a positive and constructive outlet for idealistic youth worldwide to be of service to humanity. Bin Laden just might lose his following of dedicated young people. Since the International Peace Corps, together with the Village Earth Model, would obviously be addressing the world's most serious problems, there would be significantly less incentive for violence. Remember, Bin Laden, in November 2002, told us why we have terror and violence: —The developed countries live in such lavish, arrogant luxury, while most of the world lives in poverty.— And *we seem to have no concern about it!* Isn't Bin Laden using extreme measures to call attention to the world's most important problem—the elimination of worldwide poverty?

Renewable Energy

Renewable Energy can reduce or eliminate the dependence of the world on petroleum as a primary source of energy. This current world dependence on petroleum is causing many complications and difficulties worldwide. Fortunately, this *energy problem could be solved worldwide* almost overnight by using *renewable energy (wind, solar and ocean energy) and hydrogen*. Also, the millions of tons of *organic waste* worldwide, for which disposal is very difficult, could be used to produce energy. All of this organic waste could be digested anaerobically to *produce methane (natural gas) and fertilizer*. This would stretch the world's limited supply of natural gas much further. Natural gas is the cleanest of all the fossil fuels and the anaerobic digestion of organic waste *makes methane a renewable source of energy*. This methane, and the remaining natural gas, could also be used to produce pharmaceuticals, plastics, and other badly needed products for a much higher rate of return than using it as a fuel. At the same time, methane could be used by pyrolysis to produce hydrogen and carbon.

Unlimited Supply of Energy

This *unlimited supply of renewable energy* is readily available and, with the rising prices of petroleum, all of these sources will soon be economically competitive. The renewable energy from the wind and sun can be captured locally to provide electricity for individual homes, businesses, and industries. This is called *distributed energy* and its use means that the very expensive nation-wide grid for electricity does not need to be expanded. Today, *wind energy is already economically competitive with gas and coal for generating electricity*. Within a few years, sun energy using *photovoltaic (PV) cells will be economically competitive* for producing electricity. PV is already competitive if the user of electricity is as much as a mile from the grid. An energy revolution is at hand—today!

Hydrogen

Hydrogen is the fuel of the future for mobile units (such as vehicles) and to gradually replace natural gas as natural gas becomes more and more scarce. It can be made with electricity by electrolysis of water or it can be made directly from water by using the concentrated heat of the sun. It can also be made by heating hydrocarbons to separate the hydrogen from the carbon. Additional information about hydrogen can be obtained from our web site: www.hydrogennow.org.

Hydrogen Fueled Vehicles

There are *two difficult problems* in converting vehicles to use hydrogen as a fuel. The problems are with the vehicle manufacturer and its warranty and with the U. S. Government regulations. There are nearly a *billion internal combustion engines* in existence today worldwide which are polluting the atmosphere with their exhausts. If they are old enough to be out of warranty, we can convert them to hydrogen immediately, but the newer vehicles must have the manufacturer's approval to convert the engine. Furthermore, U. S. Government regulations prevent the necessary modifications to the ignition system for vehicles in the U.S. We need to find a way to get the cooperation of the manufacturers and the U. S. Government to make these conversions.

Carbon Fiber

Carbon fiber (which can also be made from coal) is inevitably a major *structural material of the future* since it is *twelve times as strong as steel and a fraction of the weight*. Civil, mechanical, chemical and materials engineers have recognized this fact. They are doing research and holding conferences to study all the possibilities. Carbon fiber is already being used to make fishing poles, tennis racquets, golf clubs, and car bodies. Engineers are also ready to use carbon fiber for reinforcing in structures and equipment as soon as it is competitive in price with fiberglass, which they are now using for many applications. There is an *enormous future market for carbon fiber*. Using carbon in this way makes it possible to create hydrogen from organic hydrocarbon material instead of burning the carbon and creating carbon dioxide, which is a greenhouse gas that is polluting the atmosphere.

Win-Win-Win for Everyone

The *challenge with renewable energy* is to move it ahead in such a way that it is a *win-win-win for everybody*. The petroleum industry is faced with a diminishing supply of oil. What remains should be used for the maximum price—such as for pharmaceuticals and plastics. Renewable energy technologies can provide all the energy we can use, including hydrogen. Shell Petroleum has created a new company called Shell Hydrogen, and BP/Amoco has taken similar action. They have been advertising that BP now stands for —Beyond Petroleum.— Texaco is in the process of setting up a hydrogen division. Eventually, all the petroleum companies will change over. We need to find a way to work with them and help them, and *make it a win-win-win for everybody*. The coal companies need to provide the carbon for the carbon fiber to be used in building structures, buildings, machines and equipment as we gradually run out of steel.

Conclusions and Recommendations

1. From the foregoing information, it can be seen that *there is a systematic way to address and solve many of the world's most crucial problems* using the basic

framework of the Village Earth Model, creating and utilizing an International Peace Corps, and utilizing renewable energy.

2. Large International NGOs, which have been working successfully with poverty-stricken people in the world, need to be identified and persuaded to work as lead NGOs on comprehensive projects to eliminate poverty and solve many other world problems using the Village Earth Model.
3. NGOs with single-sector interests and expertise need to be identified and persuaded to work with lead NGOs in eliminating poverty and many other world problems using the Village Earth Model.
4. Funding agencies, such as the World Bank and USAID, need to be persuaded to create and fund projects working at the grass roots using the Village Earth Model to eliminate poverty and solve many other world problems.
5. Individual and group entrepreneurs in the villages need to be heavily supported with micro-credit, and funding and advice to develop small and large-scale industry and business using a balance of the service motive and the profit motive.
6. National and international business needs to recognize that the largest potential consumer market the world has ever known exists in the poverty-stricken areas of the world and strongly support the funding of village development programs and simultaneously solve other world problems.
7. The entire world must shift as rapidly as possible from fossil fuels to renewable energy that is immediately available, and economically competitive, in virtually unlimited quantities.
8. The entire world must adopt and shift to a hydrogen economy immediately for reasons of global pollution and security.
9. Ways must be found to conveniently and economically convert existing vehicles to using hydrogen instead of fossil fuels.
10. If a major program were initiated by the nations, the development agencies and the businesses of the world to eliminate poverty and associated problems, it could be the most exciting and productive period in world history.