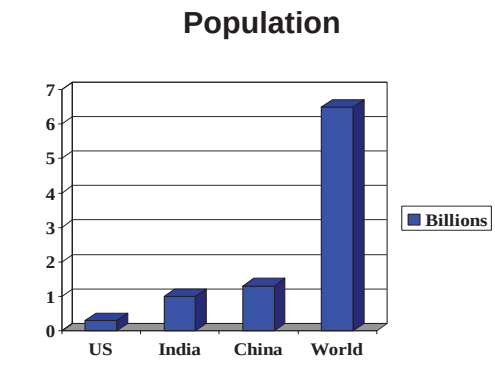
Introduction

A SEED Park: A Sustainable Environmental and Economic Development Park

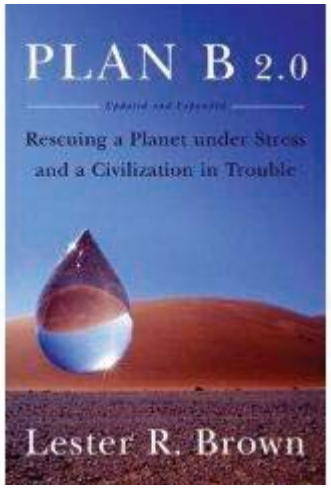
When gasoline was $.35, or even $1.35, per gallon we apparently could afford to be a throw-away society. With gas now above $3.00 nationwide and above $5.00 per gallon on the West Coast, it may be time to rethink our throw-away economy.



The demand of consumers in India, China, and the rest of the world to achieve a life style similar to that in the US is forcing us to examine the sustainability and economics of our agricultural and industrial enterprises.

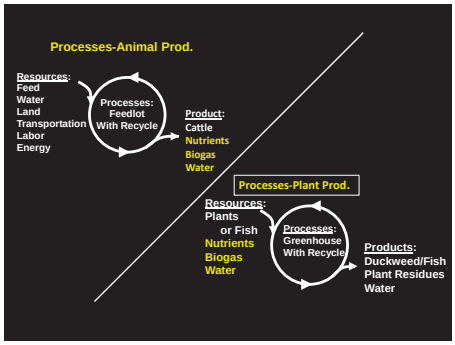
The United States, with just less than 5% of the world's population, uses 25% of the world's energy. US industry produces residues and effluents from agriculture, construction, manufacturing, municipalities, and households that all contain energy – waste energy – and can be recycled. Except for nuclear power and geothermal, all sources of energy are ultimately derived from the sun. Even fossil fuels are a form of solar energy, captured by plants and stored in geologic deposits millions of years ago. Extraction and utilization of this stored energy today far exceeds the rate of replenishment. Therefore, if tomorrow's society is to enjoy the quality of life we know today, we must change our ways. The economy can help us make the right decisions.

The Earth Policy Institute has published a book "Plan B 2.0: Rescuing a planet under stress and a civilization in trouble" by Lester Brown. "Plan B 2.0" calls for a restructuring of society to utilize the waste stream of one business as the raw input product into the next business. A series of businesses integrated together could become a dynamic economic powerhouse.



We're familiar with plastic composite decking material made from recycled plastic bottles, with aluminum cans manufactured from other recycled cans, with printer paper made from recycled paper, ad with other products made from recycled goods. In Japan, NCE, the large electronics firm, has clustered its various production facilities so that usable waste products from one can be fed as the raw ingredient to the next downstream facility, etc. India, now the world's number one producer of milk, has adapted a similar strategy for agriculture. The milk industry of India depends solely on agricultural residues as feed stock for the dairy cattle. The San Luis Valley (SLV) has similar agricultural wastes, and we need to know if the Japanese strategy will work for the SLV.

An agriculture- or organic-based SEED Park could be centered around a dairy operation, a cattle feedlot, a municipal wastewater treatment plant, the forestry industry, or an electric power plant gasifying municipal solid waste to produce a renewable and clean fuel. With the open space and clear skies of the West, this region is ripe for development of extensive photovoltaic solar parks producing commercial quantities of electricity. These solar parks could be a key component of a SEED Park.

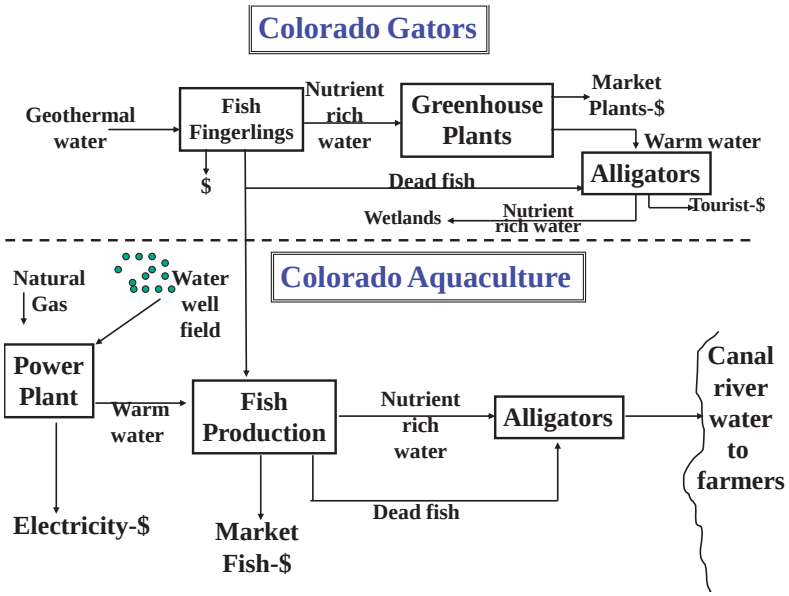


The production of animals produces residues (nutrients, biogas, and water), commonly discharged as wastes, but which have value as input resources for production of plants.

Today, for example, Colorado Gators employs elements of a SEED Park. Colorado Gators is first, and foremost, an aquaculture facility producing tilapia as food fish. Tilapia are warmwater fish and can be produced in Colorado only because

of the availability of geothermal water. The alligators were brought in to consume the offal and any dead fish. The greenhouse structures provide protection during both summer and winter. The heat from the geothermal water keeps the greenhouses operational throughout the winter. The greenhouses provide space for a range of terrestrial and aquatic plants with value in the food, fiber, ornamental, horticultural, and landscape industries. The fish excrete waste products into the water, degrading water quality. The plants extract these waste products as nutrients essential for plant growth; this process cleans the water and allows it to be recycled and reused. The multiple reuse of water allows the business to flourish while preserving one of our most precious and declining natural resources – water.

Now, in addition to the production of fish, alligators, turtles, bamboo, watercress and other plants and animals, Colorado Gators attracts a stream of tourists. Of course, they are attracted by alligators in Colorado, but also by the opportunity to see the basic principles of a SEED Park. Discard nothing, recycle it all; our future depends upon it.



Unused agricultural byproducts provide the resources to move to renewable energy, to create jobs, to reduce imports, and to improve life for our children and their children. A SEED Park can be part of the answer. Look within your community for resources now going to waste, to the landfill, or accumulating in piles, as cattle manure and automobile tires often do. These are all resources we can use. If we can restructure our production, manufacturing, wastewater treatment, disposal of municipal solid waste, energy production and energy consumption, then we can improve our world both environmentally and economically.

The San Luis Valley Resource Conservation and Development is pursuing grants to determine if a SEED Park is one way to make economic improvements while being environmentally conscience. The question, is now the time to build a sustainable environmental and economic development park, a SEED Park? Will the first commercially developed, fully integrated SEED Park be in your community? As the study develops conclusions, and if the SEED Park concept is appropriate for the San Luis Valley, the process of how to make it work for the San Luis Valley will become evident.