

FINAL REPORT FOR

COLORADO DEPARTMENT OF AGRICULTURE
CAVADB ENERGY GRANTS

RE: Feasibility Study for Sustainable Environmental Economic
Development Park

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For the Alamosa County Commissioners

And the

“SLV Resource Conservation & Development Council”

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Project Overview

Based on the number of employees, the 2000 Census ranked agribusiness employers first, followed by education, wholesale/retail trade, and government. Besides the government sectors (education, forest service), agribusiness is the primary employer of people in the San Luis Valley of south central Colorado. Covering over 8000 square miles, the San Luis Valley is the largest alpine valley in the world and sits on top of the second largest aquifer on the continent. The large number of sunny days (320 days per year) also makes it ideal for agriculture.

The population of the Valley is 47,464; 52% of the residents are Anglo and 45% are Hispanic in ethnicity, with 3% other minorities. Twenty percent of the Valley's population lives below the poverty rate compared to 9% statewide (US Census). Forty-nine percent of business leaders in Colorado identified energy costs as their top concern second only to health care costs.

The area produces 90% of the Colorado potato crop, the fifth largest growing area in the nation. The region also produces a good portion of the state's barley, hay, alfalfa, oats, grass finished beef, and spring wheat. Major agribusinesses include: Rakhra Mushroom Farms, Gosar Ranch Natural Foods, Haefeli's Honey, 3S Farms, Coors (barley), Mundorf Farms, and the Colorado Alligator Farm (tilapia).

In recent years, the agricultural business base of the San Luis Valley has been threatened by drought, rising energy costs and downward market pressures on existing crops. These threats have provided an incentive for combining resources, utilizing bi-products and nurturing new value added agricultural products. It has also been recognized that a diverse mix of agribusiness is necessary in order to maintain a healthy economical business base for the San Luis Valley.

The San Luis Valley Resource Conservation and Development Council seized the opportunity to address these problems by studying the feasibility of establishing a "Sustainable Environmental Economic Development Park" in the San Luis Valley. The primary purposes of the feasibility study were two fold: first the RC&D Board needed to determine if "SLV Communities would adopt the concept of a SEED Park, and would they invest in it"? and if so create a roadmap for selecting compatible businesses, appropriate renewable energy sources, and recycled processes appropriate for the SEED Park. The SLV RC&D Council put the feasibility study out to bid for a consultant in the Rocky Mountain Region in July 2006 and selected Global Scientific Inc. (GSI).

The RC&D Board appointed a development committee and they worked with GSI to implement the feasibility study. The first major task was hosting and facilitating the stakeholder meeting on December 1, 2007. One hundred fifty people attended the all day meeting, and talked about renewable energy, recycling, hydrogen production, agriculture production, tourism and education. \$6,000+ was invested by local private citizens in the Project.

The SEED Park feasibility study has determined a mutually beneficial mix of agribusinesses to be located in one park. This combination of businesses will share some resources in order to reduce costs (including energy and water) and grow their businesses. Waste may be reduced significantly or eliminated all together. The economic benefits will be significant in job creation and expanded market opportunities for the SLV and include: 50+ permanent jobs; energy independence, sell surplus power to the grid; relieve the counties and municipalities of the task of burying trash; produce local fresh food for local people; water discharge is clean; increases value to the economic base through business creation, wealth generation, and infrastructure advances.

Key Findings

Stakeholder Data

The breakout sessions were centered around eight topics with Stakeholders. The sessions on Value-Added Processing and Ag Processing were combined, as were the sessions on Education and R&D. The sessions were in six rooms as follows:

Session	Stakeholders
Recyclable Resources	10
Energy	26
Value-Added Processing	9
Ag Production	4
Tourism	10
Education, R&D	11

In each session, Stakeholders identified potential business opportunities for the SLV RC&D SEED Park and then ranked the items based on pros and cons for successful establishment. The tally and ranking of these votes was used to identify potential businesses of priority importance to the Stakeholders.

The top ten potential businesses, in order of rank, were as follows:

1	Greenhouses & Aquaculture	35
2	Landfill Waste (MSW)	32
3	Sewage	30
4	H ₂ Fuel	30
5	Carbon Recycling	26
6	Biomass Gasification	22
7	K-12-College Outreach	21
8	Small-scale Wind Turbine Mfg.	19
9	H ₂ Conversion Retrofit	13
10	Photovoltaic Installation and Maintenance	13

Business Plans

Based on the outcomes of the stakeholder meeting ten enterprises were selected by the SEED Park Committee for business plans. The ten enterprises are: fish/plant production, carbon recycling and hydrogen generation, malt barley processing, herbs, potato waste

(pharmaceuticals), wood pellets, dairy goats, feed mill, compost with various waste materials, and organic poultry production. Potato waste is being done under a separate grant, as is municipal solid waste and gasification of biomass, so therefore there are nine business plans that will be developed under this grant, and with the other three a total of twelve. Copies of these business plans will come under separate cover.

The possibilities for job generation are huge. An aquaculture/greenhouse business plan estimates that by the end of the fifth year of operation that the enterprise would have 74 employees with base salary of \$22,700. The malt barley facility would employ 5 full time workers, at an average salary of \$25,000.

There was a mention of energy costs escalating and the impact that they have on SLV agriculture. The goal of the RC&D board is to produce power independently of the grid (gasification of biomass and possibly solar power) so that the cost of a kilowatt hour of power would be below that being sold by the utilities.

Municipal solid waste is being studied as the practicality and profitability of including them as SEED Park enterprises. Volumes, availability, and transportation costs are key questions that will be answered by the feasibility studies and business plans.

If the cash flow for each enterprise is positive then it is likely that they will be present at the SEED Park. In summary, each enterprise has to have a positive cash flow or the particular business will not locate at the SEED Park.

Response to Study

Agreement/Disagreement with Study

The overall outcomes of the feasibility study are very positive. Nine business plans are near completion and seven of these would take low to moderate investments. Carbon recycling and hydrogen generation is an expensive technology and would be an enterprise that would probably take more time to develop. Wood pellets and briquettes would not be a profitable business in the SLV at this time. Transportation is a larger component of a product's price in the SLV than in other agricultural areas. Therefore, it is the focus of the SEED Park to promote high-valued products so that transportation is a lower cost percentage of the consumer product price. The aim is to reduce the economic leakage that normally occurs with SLV products. The normal condition in the SLV is that very little value-added processing is done; the raw product goes elsewhere for processing. The intent of the RC&D Board is for businesses to grow and perform value-added processing at the SEED Park so that the money stays in the SLV.

Next Steps

The SLV RC&D Council is working with a developer to secure ownership of a 3,000 acre land base with 4 cu. ft. /sec. water rights. In addition, the Council is contracting with consultants for the development of feasibility studies for gasification, processing of potato waste, and recycling of municipal solid waste. This Park will be developed in an orderly fashion over a period of years, with priority given to entrepreneurs stepping

forward. The SEED Park advisory committee will insure that enterprises are agriculture/forestry related and complement each other.

Notable Successes and or Accomplishments

The goals of the SEED Park feasibility study was to seek community input and support and identify sustainable, renewable energy systems and a desirable mix of complementary agricultural/forest based businesses. The study has been done so now is the time to assess the economic viability of the SEED Park concept. To date some of the successes are:

- o 150 people from various parts of the SLV community are excited about the possibilities of what the SEED Park planning process will bring to the communities of the SLV;
- o Seven business plans are complete with another two to be completed soon;
- o SLV RC&D is working with a developer to purchase a home for the SEED Park, and implement the most viable enterprises of the nine business plans immediately.

Final Accounting of Project Expenditures

Matching Cash/In-kind Contributions

Expenditure	CAVADB	*2 Federal	*1Other	Total
Consultant	\$25,000	\$127,750	\$80,000	\$232,750

*1. State Grant- CDPHE \$46,250, CGEO \$17,500 Private donations \$6,250, \$10,000 Southwest Sustainable Forests Partnership

*2. Federal Grants – EDA \$25,000, USDA/RD \$50,000, EPA \$25,000, USDA/NRCS \$27,750