

Sustainable Development in Central America and the Dominican Republic

Company: FUCRISAN
Country: El Salvador
Project: TMF Program: Poverty reduction and environmental improvement. A sustainable development strategy.
Year: 2005

THE COMPANY

The Fundación Cristiana para la Salud y la Naturaleza (FUCRISAN), located in Santa Ana, was founded in 1995 as a private, social benefit, non-profit, apolitical, non-governmental, and Christian inspired organization which main objective is “to contribute to the health of the Salvadorian people – especially in the farming sector and people with limited resources through the rational use of natural resources.”

Currently, it has 29 employees and it makes 100% natural products for medicine and cosmetic services. Since its beginning, FUCRISAN has been concerned with continuously improving its processes and products to satisfy clients’ needs while generating development opportunities for the community, and protecting the environment.



PRODUCTS



The products portfolio includes:

- Capsules
- Syrups
- Creams
- Soaps
- Shampoos

Resides, they have their own medicinal plants green house which are harvested using organic fertilizers and pesticides.

PROJECT DESCRIPTION

The methodology to implement the company’s Sustainability Strategy started with the conceptualizing of the sustainable development system –at which stage an internal and external organizational analysis took place to determine its sustainability profile, as well as its options for improvement in the environmental (cleaner production), economic (productive efficiency and financial management) and social (internal and external projection besides health and occupational safety) dimensions.

Then, the company’s strategic guidelines within the sustainable development frame were established. Based on the strategic work frame, the action plans were defined in each dimension; and the monitoring mechanisms and indicators were established to guarantee the fulfillment of the established strategic objectives.

Later on, training and technical assistance were provided to support the company in implementing the action plans. This way, it was intended to fulfill the transfer of knowledge to the organization; also, the follow up oriented towards the achievement of the expected results was developed.

MAIN ATTAINED RESULTS

Strategies, policies and plans

A new company's strategic frame plan was defined:

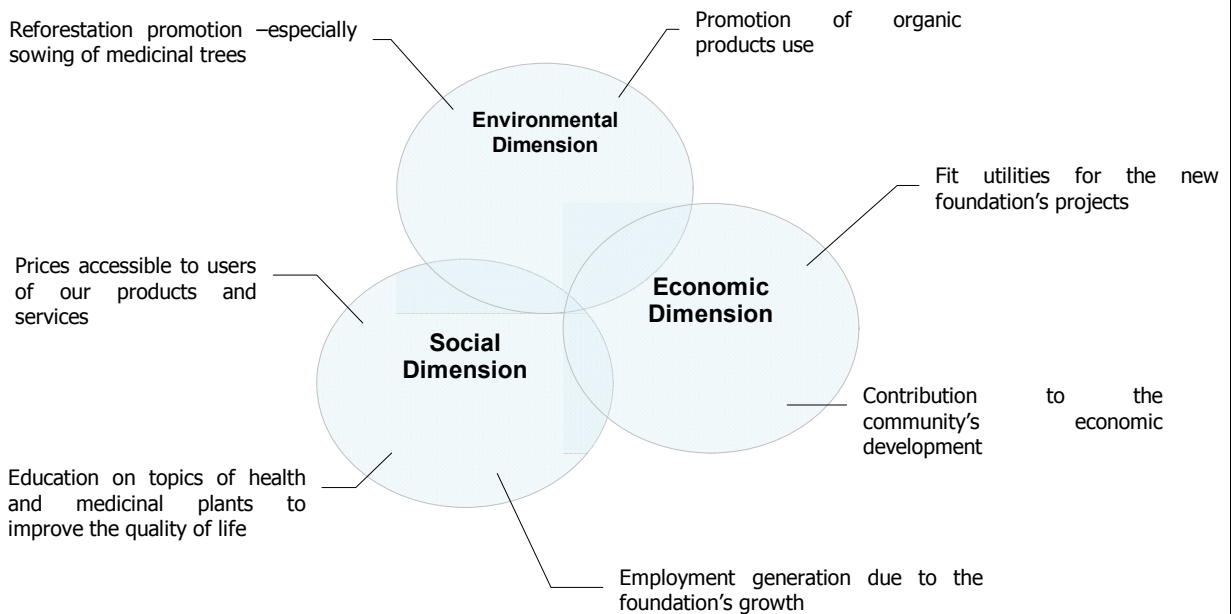
Company's Mission

We contribute to people's health in general, using nature's resources through a wide variety of natural products, medical and educative services, and promoting respect to values and the environment.

Company's Vision

We want to be - at the Central American level - recognized as a solid and functional organization, keeping the objectives and goals for which it was created with a better equipped laboratory, highly trained personnel, its own facilities and a systematized and modern customer service, as well as extended plantations and total quality in all of our processes.

Our Commitment to Sustainability



Initial Diagnosis	Achieved Improvements
ECONOMIC DIMENSION	
Financial Management	
<ul style="list-style-type: none"> ▪ It was found that some aspects in the accounting department can be improved (information updating, accounts receivable, sales costs, inventories, etc) ▪ Low sales level in comparison with the organization's actives. 	<ul style="list-style-type: none"> ▪ The management was given directions to carry out a revision on the different items, both from the registration as well as the information validation by the auditing entity. ▪ A tool for accounting information analysis was provided – to facilitate the interpretation by strategic and financial indicators for the management' decisions. ▪ Work was done on the analysis of the administrative processes and the interaction with the marketing and sales processes. ▪ Support was granted on the definition of a strategic framework for the organization, and a work plan was defined to achieve it. ▪ An action implementation plan in the short, medium and long term was established.
Productive Efficiency	
<p><i>LEAN MANUFACTURING</i></p> <ul style="list-style-type: none"> ▪ The foundation must comply with Good Manufacturing Practices (GMP) for the industry on the making of natural medications. At the beginning of the project, the compliance with GMP at the plan level was 55.35% <p><i>QUALITY MANAGEMENT</i></p> <ul style="list-style-type: none"> ▪ It was determined that 8% of the product requirements (KPIV-KPOV) are not controlled. ▪ The process is partially traceable and improveable as far as traceability goes. ▪ Problems in the documentation process were detected, valuated at 51.99% 	<ul style="list-style-type: none"> ▪ Improvements were made focused on increasing the GMP compliance index, which resulted in the increasing of said index to 72% ▪ With achieved improvements, the uncontrolled requirements decreased to only 4 % ▪ The process becomes traceable and improveable in terms of traceability. This based on: <ul style="list-style-type: none"> ✓ The sample is identified and traced by lot number. ✓ The cleaning records trace the lot which is being made. ▪ After the recommendations made and the implemented improvements, the documental valuation increased to a 61.5%. One of the improvements is the making and implementation of documents and registers control procedure, as well as the procedure to make registers. ▪ The documents with job descriptions and the organization chart were modified so that they comply with the guidelines in chapter 1 in the quality norm. ▪ A system management mechanism is being established- by responsibilities division, by affinity, and by standardization. ▪ Information was given about Standard Times in Production.

ENVIRONMENTAL DIMENSION

It is estimated that the company can reach approximate savings of **\$2,241.00 USD** – projection to a year savings resulting from the implementation of measures in environmental terms. The details of each of the measures is here listed:

Order and cleanness

- In the greenhouse the farming rows are not labeled according to plant type growing in each one.



- The grinding area in the greenhouse was open.



- Signs were made to identify the farming areas. Labels for 30 different varieties have been placed.



- A sieve was placed in the grinding room's windows to prevent animal access which pollute the environment – which remains innocuous when work is done there.







Efficient water use and solid waste production

- Hoses used for the laboratory's cleaning do not have pistols to save water.



- The use of a pistol for the hose used to clean the different laboratory's area has been implemented.
- The water from the last plant rinse is being used as the first rinse water for the following batch of plants, and by doing so lowering water consumption.
- It was recommended to install a water meter which allows monitoring the resource and planning the periods when the river or the well water have to be used.

Raw materials and other materials Management	
<ul style="list-style-type: none"> ▪ The disinfectant's dose is higher than that recommended by the manufacturer: 8 g/ L water. ▪ Use of plastic bags to internally transport raw materials. ▪ Paper used at the offices, the laboratory and clinics is neither reuse, nor recycled. ▪ The gluing system to label is handmade which implies higher glue consumption. 	<ul style="list-style-type: none"> ▪ It was recommended to lower the amount to half (4 g/100 liters of water) and to perform microbiological tests. Results were satisfactory, so it was decided to keep the quantity to half of what had been used. ▪ It was recommended to substitute plastic bags for reusable plastic containers for raw materials' internal transport – this measure is already being implemented in the tea production area and will be expanded to the other areas. ▪ Paper is reused at the laboratory and the offices. This has created awareness on the importance of saving this resource. ▪ A recycling of paper started at the foundation's clinics, and contacts will be made to sell it to a recycling entity. ▪ It was recommended the use of a roller to glue – which optimizes resources use, and helps make the process quicker and more efficient.
Energy Efficiency and electricity consumption	
<ul style="list-style-type: none"> ▪ High electrical consumption at the laboratory and the greenhouse. The base line is the following: <ul style="list-style-type: none"> ✓ 0.45 kWh monthly laboratory/unit finished product ✓ 2.93 kWh monthly gree house/unit processed product ▪ The solar drier used for plants is not in good structural conditions. This causes an inefficient use of solar energy, making it mandatory to use solar energy to reach the needed humidity and temperature. <div>  </div> <ul style="list-style-type: none"> ▪ The dryer's hydrometer is malfunctioning. <div>  </div>	<ul style="list-style-type: none"> ▪ With measures taken in the laboratory, and the green house, an estimated savings of \$540 / year USD was accomplished, and this can be seen in the final electricity consumption indicators: <ul style="list-style-type: none"> ✓ 0.38 kWh monthly laboratory/finished product unit. ✓ 2.29 kWh monthly greenhouse/ processed kilogram of product. ▪ A structural revision was performed and costs were estimated. From this datum, an improvement plan was done in three steps (1. Woods, paint and details, 2. Cement and 3. Lamination). Up to now, stage 1 (woods, paint and details) has been realized. <div>  </div> <ul style="list-style-type: none"> ▪ A hydrometer-thermometer was purchased for the solar dryer and records are being kept. <div>  </div>

<ul style="list-style-type: none"> ▪ A corrective maintenance of all the company's machinery is recorded. ▪ Lighting throughout the company is done with incandescent bulbs. ▪ To seal the capsules' containers, industrial pistols (driers) are required. The kind of seal needed uses a lot of heat from the pistols. ▪ The saponification process is not standardized, it is kept in reaction during one, two or more days – spending high amounts of gas. The initial indicator regarding gas consumption is the following: <ul style="list-style-type: none"> ✓ 0.132 Lb of gas consumed/unit of produced soap ▪ High fuel consumption for local transportation and distribution routes. Monthly, 175 gallons of diesel are spent – costing \$ 410 USD. The initial indicator regarding fuel consumption is the following: <ul style="list-style-type: none"> ✓ 0.0305 Gallons consumed fuel/ finished product 	<ul style="list-style-type: none"> ▪ A first preventive document was made and all equipment was coded. A follow up mechanisms was established. ▪ Some light bulbs were changed for saving lamps. ▪ Another type of seal was tried and a price quoted, and its use in capsule bottles was approved to later on use it in other products. This results in a decrease in industrial pistols use and therefore a reduction on electricity consumption and in packing time. ▪ A procedure was established in which the saponification mixture will only be kept the time needed (24 hours), so that less gas is consumed during the process. Additionally, a price for the agitator for the process will be quoted - as effective agitation accelerates the reaction and reduces the operation time – resulting in gas savings. The final indicator regarding gas consumption is the following: <ul style="list-style-type: none"> ✓ 0.086 Lb of gas consumed / unit of produced soap ▪ A plan for local transportation and distribution routes was set where the following was taken into account: <ul style="list-style-type: none"> ✓ A shopping plan was set for a specific day of the week to purchase locally. ✓ A day per week was set for the quality control manager's visit to the greenhouse. ✓ A revision of the distribution routes from the company to San Salvador, Ahuacapan and Chilatenangoa was made with the goal of optimizing them. ✓ Another measure taken regarding this was the modification of the speed allowed and the times per route as to help lower the fuel consumption. ▪ A preventive maintenance plan was implemented for the company's three vehicles. ▪ The final indicator regarding fuel consumption is here shown and it represented a savings of \$1,661 USD yearly: <ul style="list-style-type: none"> ✓ 0.0250 Gallons consumed fuel/ finished product
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SOCIAL DIMENSION

Health and Occupational Safety	
<ul style="list-style-type: none"> ▪ Employees' individual protection equipment has to be improved. ▪ Some employees show pharynx discomforts. ▪ The grinder's belt at the greenhouse lacks any protection. ▪ The company's global risk index was estimated at the beginning of the project to be 2,8. This index should start diminishing to see an improvement in the health and occupational safety topic. 	<ul style="list-style-type: none"> • Three pairs of safety goggles were purchased to be used at the greenhouse's grinder, in quality control (especially when using the autoclave), and in the saponification process. • Two special masks – for fine dusts - at \$28.00 USD each were purchased and are used. Discomforts have decreased remarkably. • The placement of a hopper or protector was recommended as to diminish the risk of trapping body parts or clothing. This measure is pending implementation. • The company's global risk index was estimated at the end of the project to be 2,6. • An improvement plan in this topic was established for the short, the medium and the long term.
Internal and External Social Projection	
<ul style="list-style-type: none"> ▪ The Positions Descriptive Handbook only included the description of general functions, and did not specify details of other position's dimensions, and the selection profile. ▪ There was no formal selection process. ▪ There was no specific training process. Training was given only for specific needs within company's areas. ▪ It was necessary to ease the organization's projection as an entrepreneurial model of socially responsible conduct. 	<ul style="list-style-type: none"> ▪ A new model for the Positions Descriptive Handbook was proposed and implemented. It includes the company's general frame, its organization and at the time of the process closing, all details for 21 positions; and the validation process has started with the corresponding department leaderships. ▪ Jointly with the Management, the Recruiting and Selection process was designed. The corresponding forms for each step of the process were made, and these were improved based on the results of the first application. ▪ A training process was set in its fundamental steps. ▪ A conference was given to the company's department leaderships, and reflections were made as a group on the importance of specifying efforts. Besides, awareness conferences were given on the following subjects: <ul style="list-style-type: none"> ✓ Social responsibility: human elements and competitiveness. ✓ Better human talent management at organizations ✓ Our personnel health and safety: elements to consider. ✓ Society and company in the competitive context.

PHRASE BY THE ENTREPRENEUR

“Thanks to the project developed with CEGESTI, now at FUCRISAN we feel highly committed to continuous improvement and to contributing towards El Salvador’s sustainable development. In environmental matters, we now handle indicators, which help us measure electrical energy consumption as well as fuels noticing important reductions since the project started. Besides, the efficiency within productive processes has improved; we have implemented personnel selection and recruiting processes, and we have activated tools to measure the financial impact of the implemented actions and those expected to be implemented in the medium and long term. In general terms, the assistance provided has set basis, and the path has been defined to achieve our company’s economic success, keeping balance with nature and improving our personnel and the community’s living conditions.”

Walter Edgardo Cuellar
General Manager



Ministerie van
Buitenlandse Zaken

