

Sustainable Development in Central America and the Dominican Republic

Company: DULCERÍA EL CARMEN
Country: Nicaragua
Project: Programme Poverty Reduction and Improvement of the Environment:
An Integral Sustainable Development Strategy.

THE COMPANY

Dulcería El Carmen is located in Masaya, Nicaragua. It has operated for 11 years and is managed by María del Carmen Calero Barahona, proprietor and founder. According to the proprietor, the company's success lies on the products' quality – which she herself ensures and verifies directly through supervision of raw materials purchase and production.

It is a company's policy to keep a large variety of presentations for the different products, and that they be available all year round. To achieve this, the company freezes fruit pulps – which are purchased during harvest time – for its gradual use throughout the year. Fruit processing is planned according to season and fruit availability.



Currently, the company employs 18 people and results in approximately 42 indirect positions, which include peddlers who get the products on consignment (they take it in the morning and pay for it or return it in the afternoon).

MISSION

"We are a company dedicated to the production and sale of preserves, desserts and fudge like sweets. Our products are high quality and distinguished by its flavor and presentation, and are made to satisfy all tastes, ages and segments in any time of the year".

PRODUCTS

The company has approximately 40 products, which may be grouped into three larger ones:



- Desserts
- Preserves
- Fudge like sweets

All products have different flavors and have a sanitary register and a bar code.

PROJECT DESCRIPTION

The methodology to implement the Sustainability Strategy in the company 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, economic and social dimensions.

Later on, a sustainability strategic work frame was established; here the organization's strategy – which includes Mission, Vision, organizational values, strategic objectives in the three mentioned dimensions, and the company's commitment to sustainable development.

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.

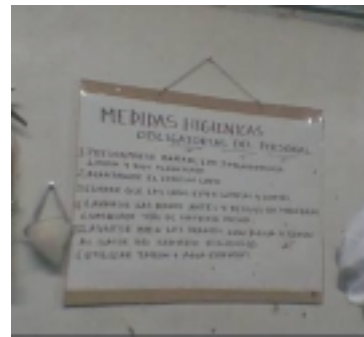
MAIN OBTAINED RESULTS

Starting diagnosis	Achieved Improvements
ECONOMIC DIMENSION	
1. Value Drivers	
<ul style="list-style-type: none"> - Lack of indicators to monitor the company's financial results to make decisions about it. - Need to improve some aspects related to the accounting system (profitability control by sales point, stock control, and the register for receivable and payable accounts) - Lack of clear relation of the product with the company'. 	<ul style="list-style-type: none"> - A strategic plan was developed as well as indicators to follow up on established objectives. - Personnel were trained on Economic Value Added (EVA), and on the different value drivers activities, which are part of the company's financial results. - A tool to monitor the main indicators related to value chain (growth, profitability, work capital, investments and financing) was implemented. - An action plan was defined to improve the company's value chain. - An analysis on the company's relevant accounting elements was done and recommendations in that regards were given. - It was achieved that products go into the market labeled, which caused awareness of the importance of added value as a differentiating element in the market  <ul style="list-style-type: none"> - In August, a fair in El Salvador was attended with the goal of exploring possibilities of having new distribution channels for products, which maximize production capacity. - In December, another fair with the same purpose will be attended. Furthermore two tours will be done: one to Belize and the other on to Honduras with the goal of distributing the products.
2. Good Manufacturing Practices and HACCP (Hazard Analysis and Critical Control Point)	
<ul style="list-style-type: none"> - Improvement needed in infrastructure, warehouses, hygiene, process and product. 	<ul style="list-style-type: none"> - Plant personnel were trained on Good Manufacturing Practices – emphasizing hygiene topics. - For the new plant, the recommendations were taken into account so that it works under Good Manufacturing Practices – starting step to implement HACCP (the raw materials warehouse was built separately from the process area, work tables were substituted for stainless steel tables, windows have sieve, a sink was installed at the plant's entrance, toilets were located outside the plant and in the plant, three fans were placed at the same level of upper windows).

- Lack of written procedures and controls registers.
- Lack of a Risk analysis and Control Point (HACCP).
- Topics of food safety and innocuousness not included in the personnel's induction programs.



- The documentation of company's procedures has started. All recipes are written down and blackboards with messages have been placed throughout the plant.



- Personnel's induction plan will include food safety, innocuousness, GMP and HACCP.
- The second story's warehouse roof will be raised to make it less hot and better aired by May 2005. Likewise, a manual elevator will be installed in the plant to lower raw materials from the second story's warehouse, and to transport upstairs/upwards the finished product for its packing – this measure will be implemented in July 2005.

ENVIRONMENTAL DIMENSION

1. Efficient use of raw materials and prevention of solid waste production

- Lack of initial fruit inspection to detect which are in bad shape and become solid waste.
- Production of large quantities of organic waste coming from fruit (peels, seeds and pulp).
- Raw materials' bags and packing baskets become solid wastes.



- A fruit in situ inspection takes place where it is purchased to avoid getting fruit in bad conditions.
- Efforts are being made with suppliers to use organic wastes as fertilizer; besides getting organized with other companies in the area to do a compost project. This alternative is being studied.
- It was agreed with the raw materials supplier to buy the bags to be reused. Each bag is sold at \$0.13 USD; and approximately 120 bags are sold per month (\$16.00 USD per month).
- Sub-products like baskets and cardboard boxes are used in packing finished product or to transport internal product. This way solid waste production is avoided.

2. Efficient water use and prevention of wastewater production	
<ul style="list-style-type: none"> - Water consumption in the washing processes (fruits, production and the building). The company's monthly expenditure is 73 m³ equivalent to \$47.00 USD. Wastewater do not present a problem. 	<ul style="list-style-type: none"> - A preliminary rinse to remove mud and superficial dirt is being made with this the amount of fresh water needed for the washing decreases.
3. Energetic efficiency	
<ul style="list-style-type: none"> - High consumption of butane gas for the slow and rapid cooking processes in the same recipe. - High electricity consumption (900 KW monthly, \$190.00 USD) - Use of wood stove (wood/natural resources consumption) 	<ul style="list-style-type: none"> - The gas exit nubs were calibrated as to standardize the consumption per recipe. - The optimizing gas consumption procedure was documented and signs with the procedure were placed in the plant within employees' reach. - The plant's electric panel was changed and the electric wiring was improved. <div data-bbox="1052 619 1269 919" data-label="Image"> </div> <ul style="list-style-type: none"> - The wood stove use was eliminated.
4. Adequate handling of chemicals	
<ul style="list-style-type: none"> - Excessive amount of chlorine used in the water to wash fruits. 	<ul style="list-style-type: none"> - Used chlorine is measured out in the fruit washing process (2 teaspoonfuls per each bin of water) -
SOCIAL DIMENTION	
1. Occupational Safety	
<p>There is no risks and accidents monitoring.</p> <div data-bbox="332 1199 667 1570" data-label="Image"> </div>	<ul style="list-style-type: none"> - Risks at the plant were identified and measures recommended. Some of the risks are: <ul style="list-style-type: none"> - Severe burns with large frying pans. Measure: wear adequate materials gloves and aprons. - Explosion and fire due to the butane gas use. Measure: place fire extinguishers and train personnel in emergencies and adequate preventive maintenance of the gas valves and tanks. <div data-bbox="979 1503 1338 1793" data-label="Image"> </div>

2. Internal and External Social Projection

- Need to strategically integrate the company's salespeople to improve their work conditions, and at the same time, the company's productivity.
- Lack of a well-structured social projection plan.
- Need to improve training, communication and the involvement of the company's human resource.



- At the managerial level, awareness of the need of social projection directed towards the company's external actors was achieved – emphasizing on the relationship with salespeople and intermediaries. This was achieved through workshops like: Social Entrepreneurial Responsibility, Social Management, and Change Management.
- Awareness of the company's responsibility regarding the products' manufacture to ensure customers' safety was also accomplished.
- Awareness of the need to improve Human Resources Management was achieved – oriented towards internal communication mechanisms and personnel's involvement in reaching objectives.

**Comment by María del Carmen Calero Barahona
Proprietor**

"To all those small entrepreneurs who are starting their business, I want to tell them that to move ahead one ought to have strength, criterion, learn lots from one's work and pass it on to employees. Those who want to succeed with their own business must make important decisions to improve and move ahead, in spite of the obstacles on the road".



Project "Science and Technology Application to the Strengthening of the Small and Medium Size Agroalimentary Companies ((MIPYMEs) in the Rural Area of Latin America and the Caribbean", component: Nicaragua. Financed with resources from the OAS.