

Project: Poverty Reduction and Environmental Improvement: An Integral Sustainable Development strategy.
Company: **Industrias RODCEN S.A.**
Country: Nicaragua

THE COMPANY

Industrias RODCEN was founded in 1983 by the *Rodriguez Centeno* family in Managua, Nicaragua. In the past years, an important management change has taken place in the company – the leading managerial roles have been taken by the second generation - a renewed energy seen in new projects and the search for new markets. Currently, there are approximately 36 employees, both in production and commercialization.



Products

The company's main products are:

- Tomato sauce
- Vinegar
- English sauce
- Vanilla
- Raspberry syrup
- Soy sauce
- Mustard

The presentations are: bottles, half gallons and liters.

MARKETS AND SALES

The company's market is Nicaraguan; nonetheless, they are trying to introduce their products in the Costa Rican market.

Besides processing their own brand, they do the *maquila* work for an important distributor at the national level and which has resulted in a 30% monthly increase since they started the contract with them.

PROJECT DESCRIPTION

The Integral Sustainability Development (ISD) is a new approach to managerial management that seeks to develop within organizations the ability to "re" discover added value in their activities and define innovation strategies that incorporate the social and environmental requirements. Under this concept, companies seek a balance between the three sustainability dimensions: economic, environmental and social. Through this project an integrated methodology in the production area that includes the Good Manufacturing Practices (GMP), and the Cleaner Production (CP) concepts was implemented.



○ Dimensión Social
○ Dimensión Ambiental
○ Dimensión Económica

Through a diagnosis, the improvement options were identified and later on training and technical assistance were provided for the implementation of actions in each of the topics labeled as priority.

This project was jointly executed with Nicaragua's Ministry of Foment, Industry and Commerce's Support to Technology Program. Technicians from the entity accompanied CEGESTI's consultants during all visits to the company to learn the applied methodology.

Improvements in Good Manufacturing Practices

- Plant personnel were trained on Good Manufacturing Practices, on its importance and impact on their work.
- Improvements in the plant's cleanness:
 - o Labeling of finished product in the storage areas.
 - o Cleaning of the plant and relocation of disused articles outside the production and storage areas.
- Improvements in raw materials storage:
 - o Storage of finished products in adequate conditions according to UACA's GMP handbook.
 - o Change of the rolling pins from wood to plastic.
 - o Improvement in the way glass containers are stored.
- Improvements in personnel management:
 - o Installation of hall-stands.
 - o Development of awareness among personnel about the importance of GMP in their work.
- Improvements in the plant's infrastructure and equipment: :
 - o Installation of alcohol gel at the plant's entrance.
 - o Installation of plastic curtains at the plant's entrances.
 - o Arrangement of the packing materials warehouse.
 - o Purchase of an equipment for bottles washing.
 - o Installation of a metallic mesh in the plant's drain.
 - o Improvements in the toilets.
- Recommendations for the plant:
 - o Ensure that the washing stations have the necessary accessories according to UACA's GMP regulations.
 - o Maintain orderliness and cleanness at the plant.
 - o Keep unused articles away from materials storage.
 - o Train a food safety team to carry out inspections to the plant with the objective of identifying improvement points.
 - o Reinforce the personnel's knowledge on Good Manufacturing Practices.



Improvements in Cleaner Production

- Personnel were trained in the C+P methodology and awareness was developed on the environmental impact generated by the company.
- Improvements in water management and consumption within company's activities:
 - o Use of pressure gun hose.
 - o Reuse of chlorination water for bottles to wash the floors.
 - o Purchase of a bottle washing machine that allows standardization of the process and of water and detergent consumption.
 - o Water consumption monitoring.
- Improvements in energy efficiency:
 - o Documentation of a new preventive maintenance plan for all company equipment.
 - o Quote to change the pots and stove rings for closed boilers that do not allow heat loss and use less LP gas.
- Improvements in raw materials consumption and solid waste generation:
 - o Scales calibration.
 - o Reuse of damaged cardboards to make separators for the product packing boxes.
 - o Sale of disused glass bottles stored in barrels which take great space in the washing area.
- Improvements in the decrease of labour risks:
 - o Labeling of the chemical products containers.
 - o Collection of the chemical products' safety sheets.
 - o Placement of two more extractors inside the plant.
- Improvements in orderliness and cleanness:
 - o Increase in the orderliness and cleanness index from 33.3% to 80%.
 - o Training in the 5S methodology (to organize the plant) and implementation of the steps in the ware houses.

