USAID | SOUTH AFRICA
FROM THE AMERICAN PEOPLE

# Low Emissions Development Program

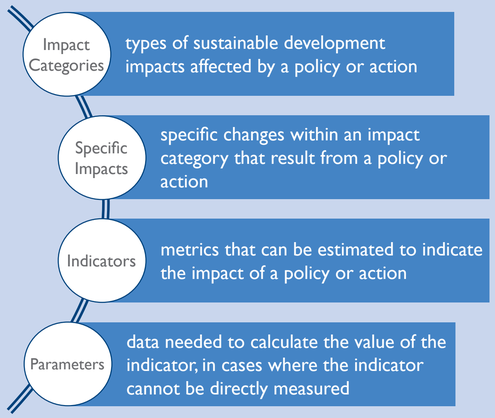
## WE WORKED FROM THE GLOBAL TO THE LOCAL

SA-LED analyzed and integrated global frameworks developed by the USA Environmental Protection Agency, the World Resources Institute, and the UN International Climate Action Transparency framework (ICAT), and tracking frameworks for the Sustainable Development Goals that focus on:

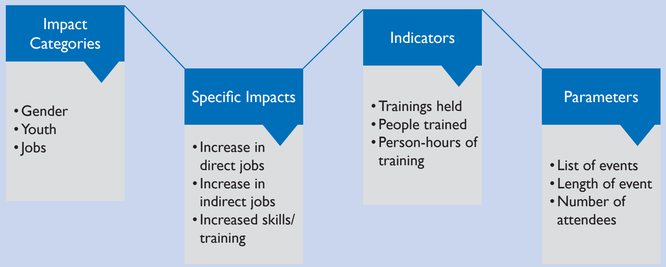
- Gender
- Youth
- Job creation
- Environment impact
- GHG mitigation

## CONTEXTUALIZED FRAMEWORK FOR SOUTH AFRICA

SA-LED developed the local MBA framework to ensure alignment of international frameworks with USAID SA-LED's local mandate, and the contextual development realities of the country. As a result, we added redress as an additional criterion. Assessments used the terms and definitions used by ICAT, as follows:

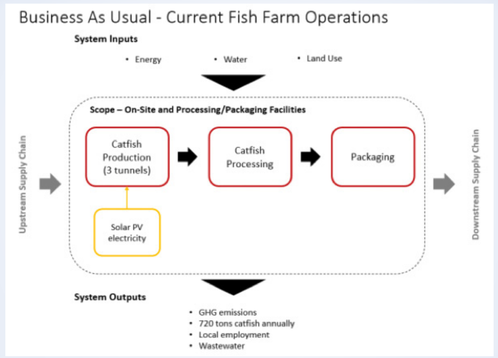



### Illustrative examples of these key assessment concepts:




This poster is made possible by the support of the American people through the United States Agency for International development (USAID). The contents are the sole responsibility of Chemonics and do not necessarily reflect the views of USAID or the U.S. government.

## BACKROOM MODELING




# MULTIPLE BENEFITS ASSESSMENTS (MBAs)

**To assess the broader development impacts of SA-LED's technical assistance projects**

## APPLICATION – PROJECTS ANALYZED

### Karoo Catch Fish Farm

Karoo Catch expanded to produce 720 more tons of fish per year. To reduce environmental impact, it installed solar panels, reduced water use and wastewater, and plans to install a biogas system. The expanded operations will employ 114 additional local workers, primarily women and young workers.

### Biogas Digesters at Schools

At least 65 schools have installed biogas digesters, to convert food and yard waste into biogas and fertilizer for use on-site. The biogas replaces fossil-derived liquid petroleum gas. The digesters avoid GHG and waste, with the added benefits of local job creation, agricultural resources, cost savings, and other benefits.

### Solar PV on Municipal Buildings

The Ekurhuleni Metropolitan Municipality (EMM) has pursued opportunities to reduce GHG emissions. SA-LED helped EMM develop an RFP and analyz requirements, obstacles, and monetary projections. SA-LED's help ensured the RFP was comprehensive and that the winning bid would achieve EMM's goals.

### Angora Goat Farming for Mohair

SA-LED developed a Mohair Standard and an assessment tool to help farmers comply with requirements, and is establishing a certification system to demonstrate compliance and facilitate farmers' access to markets. Sustainable mohair production can help reduce GHGs and promote greener farm practices.

### Composting Garden Waste

SA-LED worked with the Garden Route District Municipality (GRDM) on a waste characterization study. The information will affect the design of a new landfill. The GRDM has proactively planned for a composting area in its new landfill.

### Abattoir Waste Management

The second MBA done for the Garden Route District Municipality looked at Abattoir waste. A solution to manage the potential negative impacts of abattoir waste is anaerobic digestion, which generates biogas that can be used to produce heat and/or electricity, as well as a by-product that can be used as fertilizer.

## OUTCOMES OF PROJECT ANALYSIS

### Initial Comparison of Impacts across Assessments

| | Karoo Catch | Biogas at schools | Solar PV on Municipal | Angora Goat Farming | Garden Waste Compost | Abattoir Waste |
|---|---|---|---|---|---|---|
| **Jobs** | 114 new jobs.<br>11 new staff trained. | 1 Job per school.<br>13 production Jobs. | 16 New jobs.<br>7 new jobs for youth. | Not applicable | 124 permanent new jobs. | 2 permanent new O&M jobs.<br>53 new single-year construction jobs. |
| **Energy Consumption & GHG Emissions** | 97% reduction in GHG emissions. | 170 tones of CO2e avoided per year.<br>100000 kWh biogas energy produced. | 1,800 tones of CO2e avoided per year.<br>1,770 MWh of electricity generated annually | 24% reduction in GHG emissions per ton of mohair produced | 11,500 tones of CO2e avoided per year | 5,700 tones of CO2e avoided per year.<br>1,800 MWh of electricity generated annually |
| **Other Environmental Impacts** | 4,500m3 increase in water use per month.<br>Smaller land and water use per kilogram of protein production. | 6 Tones in organic waste reused per year.<br>Improved soil quality. | Not Applicable | 18% increase in water used per month. | Avoided water use and leachate pollution from replacing chemical fertilizers with digestate. | 290 tonnes of digestate fertilizer per year.<br>Avoided water use and leachate pollution by replacing chemical fertilizers. |
| **Social Impacts** | 76 new jobs for women.<br>89 new jobs for youth. | Reduction in human health risks. | Not Applicable | Not Applicable | Reduction in human health risks from safe disposal. | Reduction in human health risks from safe disposal. |
| **Cost Savings** | Not applicable | R11000 per year per school. | R725000 average annual saving for the municipality. | 9% increase in electricity bill per month. | Sale of R37 per ton of waste into the market. | R313,000 average annual cost savings. |
| **Solid waste impacts** | Less abattoir waste per kilogram of protein produced. | 6 Tons of organic waste per year avoided. | | | Additional 10 years in landfill lifespan.<br>32,000 tons of abattoir waste diverted annually. | Additional 3 years in landfill lifespan.<br>9,700 tons of abattoir waste. diverted annually. |

## DEVELOPED THE LOCAL QUESTIONNAIRE

Selected projects for MBA analysis through nomination process. Once selected SA-LED interviewed the project champions and other relevant stakeholders.

SA-LED developed an interview schedule that focused on collecting the correct data to assess the multiple benefits associated with the specific project.

Contact:
USAID Southern Africa
pretoriainfo@usaid.gov