

# ISL TOOL INDICATORS

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This brief provides an overview of the Investing in Sustainable Livestock (ISL) Tool and the indicators that the ISL Tool recommends using to monitor and evaluate environmental performance in livestock development projects.

**Introduction to the ISL Tool** The online Investing in Sustainable Livestock (ISL) Tool ([www.xxxxxxx.org](http://www.xxxxxxx.org)) is both a practical instrument and an information resource for developing environmentally sound livestock production systems.

The tool provides guidance, suggested activities and indicators to help livestock projects contribute to environmental sustainability. It is grounded in tested theory and evidence organized in seven principles for sustainability in the livestock sector that World Bank and the Food and Agriculture Organization of the United Nations (FAO) developed specifically for the ISL Tool.

The ISL Tool takes into consideration a variety of geographic contexts and tailors its guidance for different project objectives and interventions. So, if you are designing or implementing a project that involves livestock, the tool has detailed recommendations for you.

Because the ISL Tool understands “sustainability” in a broad sense, the tool will eventually comprise elements not only of the environment but also of animal health, welfare, and equity issues such as gender and inclusion. Thus, in due course, the World Bank and FAO will expand the tool to integrate issues of public health and animal welfare, gender and inclusion into livestock projects.

## Typical Objectives and Interventions for Livestock Development

The ISL Tool was developed based on considerations of the typical objectives and related interventions of development projects that invest in the livestock sector. Specifically, these projects tend to focus on achieving one or more of the following broad objectives: improving productivity, improving market access and developing value chains, climate change resilience and emergency response, service delivery (both public and private), and policies, knowledge, and information. Several types of common interventions fall under these objectives as see here below.

## Typical Objectives and Related Interventions for Livestock Sector Development

### Improving productivity

- ✓ Expand feed resources and balancing feed rations
- ✓ Improve animal health and welfare
- ✓ Improve animal genetics

### Improving market access & developing value chains

- ✓ Develop producer organizations and productive alliances
- ✓ Construct/upgrade post-production facilities & infrastructure
- ✓ Create opportunities along the value chain

### Improving input and services delivery

- ✓ Develop public and private extension services
- ✓ Improve public and private veterinary and animal health services
- ✓ Strengthen the network of private input and service providers

### Climate change resilience & emergency response

- ✓ Improve manure and waste management
- ✓ Develop early warning information systems and seasonal drought assessments
- ✓ Establish emergency reserves and distribution systems
- ✓ Develop tailored risk management programs and products

### Strengthening policies, knowledge, and information

- ✓ Develop/revise policies, regulations, plans, and programs
- ✓ Develop livestock information systems
- ✓ Improve capacities at central and local government levels
- ✓ Establish educational and training programs
- ✓ Establish research grant and educational programs

The project activities that are suitable for each of these interventions will differ according to the project context. The online ISL Tool proposes activities for each specific intervention in a given context. Guidance and indicators are then included for applying the seven ISL Tool principles to these activities, with the aim of enhancing and tracking their environmental benefits.

## ISL Tool Performance Indicators

Below is a list of indicators that the ISL Tool recommends for monitoring and evaluating environmental performance in livestock development projects:

- **Reduced net GHG emissions (CO<sub>2</sub>-eq) per unit (kg) of product for selected agricultural commodities (e.g., milk, meat, and eggs) — Percentage.** This indicator measures the climate impact — i.e., net greenhouse gas (GHG) emissions, including soil carbon sequestration — of agricultural commodity production. It measures the change in the net emission of GHG per unit of agricultural product, including sources and sinks along the supply chain. GHG emissions are converted to carbon dioxide (CO<sub>2</sub>) equivalent using standard global warming potential values. Quantification can be performed using IPCC 2006 Guidelines, calculators (e.g., GLEAM-i, Cool Farm Tool). The team may consider using certified methodologies, such as the Gold Standard Small Holder Dairy Methodology to generate tradeable GHG mitigation outcomes as well as the LEAP 2018 guidelines for assessing environmental performance in pig supply chains and in large ruminant supply chains.
  - Quantification may be undertaken at the start of the project, at medium term, and during terminal evaluation, using dedicated surveys to parameterize models, together with activity data from the monitoring system.
- **Grazing land area where sustainable land management practices have been adopted as a result of the project — Hectare (ha).** This indicator measures the adoption of sustainable grassland (rangeland and pasture) management in project intervention areas. The adoption of sustainable land management practices aims to ensure that grazing pressure is in line with productivity and resilience of pasture and rangelands, and with the generation of other ecosystem services (e.g., carbon sequestration, biodiversity, replenishment of aquifers). Positive lists of sustainable land management practices vary according to rangeland biology, climate, and livestock species and may be provided in project documents. They may include land use regimes, agronomic and vegetative measures, and structural measures. Teams may consider using LEAP 2016 guidelines for assessing the impacts of livestock on biodiversity.
  - Quantification may rely on a field-based survey based on semi-structured interviews with producers, ranchers, pastoralists, and agro-pastoralists on the change in behavior related to the use of their grassland in targeted zones of the project.
- **Processing plants and markets that have adopted a waste management plan — Number or percentage.** This indicator measures the number of slaughterhouses, dairies and other processing units, animal gathering points, and markets that have received project support to develop and implement liquid and solid waste management plans. At a minimum, plans should address the reduction of waste streams, waste collection, storage, and treatment.
  - Quantification may be reported annually using project advancement reports.

- **Energy-saving and renewable energy production devices and plans supported by the project — Number.** This indicator measures the number of energy-saving and renewable energy production devices installed by the project, either directly or indirectly (through policies and energy pricing). Energy-saving investments may include systems for energy recovery in milk cooling; upgraded thermic insulation; efficient burners; and energy use efficiency plans at the company level. Renewable energy production includes solar panels, biodigesters, solar panels, wind power, and microhydropower.
  - Quantification may be undertaken annually or at project start, mid-term, and terminal evaluation, using dedicated surveys.
- **Livestock production units that have adopted a manure management plan — Number.** This indicator measures the number of production units that have received project support to develop and implement manure management plans. Improved manure management practices and plans should be defined in the project document and address, at a minimum, manure collection, storage, and the recycling schedule. Manure processing and recording of manure transfer may also be included, if relevant.
  - Quantification may be undertaken annually, using project advancement reports.
- **Proportion of production units for which nutrient flows are balanced — Percentage.** This indicator measures simple nitrogen and phosphorus balances at the production unit level, as the difference between inputs (e.g., fertilizer, feed) and outputs (e.g., animal and crop products, manure exports). Nutrient flows are considered when the difference between inputs and outputs does not exceed 10-20%.
  - Quantification may be reported annually based on the production unit management data or surveys. LEAP 2018 Nutrient Flows and associated environmental impacts in livestock supply chains. Guidelines for assessment.
- **Proportion of surplus nutrients sold for use as organic fertilizer.** For those farms with nutrient surpluses that are greater than 10-20%, this indicator measures the proportion of the surplus nutrients that is sold for use as organic fertilizer. This indicator is quantified by calculating the total surplus, the amount of that surplus that is applied to crop production on the farm, and the proportion of the remaining surplus that is sold for use as organic fertilizer.
  - Quantification may be reported annually based on the production unit management data or surveys. LEAP 2018 Nutrient Flows and associated environmental impacts in livestock supply chains. Guidelines for assessment.
- **Reduction of manure and waste discharge — Percentage.** This indicator measures the reduction percentage of production units that discharge waste, manure, and slurry into waterways or unmanaged/unlined lagoons.
  - Quantification may be undertaken annually or at the start of the project, at medium term, and during terminal evaluation, using dedicated surveys.
- **Reduction of pollution discharge into waterways — Percentage.** This indicator measures the reduction in nitrate, phosphates, and BOD and E. Coli discharge (a) at the end of the pipe of the individual farms or community and (b) at critical downstream locations to be defined in the monitoring and evaluation (M&E) plan.
  - Quantification may be reported annually based on sampling and direct measurements following a predefined protocol. LEAP 2018 Nutrient Flows and associated environmental impacts in livestock supply chains. Guidelines for assessment.

- **Contingency fund for livestock emergencies created and operational — Yes/no.** This indicator measures the creation and funding of a contingency fund for livestock emergencies related to drought, disease, and other hazards.
  - Quantification may be reported annually using project advancement reports.
- **Farmers/extension agents/service providers trained on environmental issues and options in the livestock sector — Number.** This indicator measures the number of stakeholders along the supply chains that have been made aware of and trained on environmental issues in the livestock sector, for instance, through the inclusion of environmental issues and options in curriculums, extension manuals, capacity development programs, etc.
  - Quantification may be undertaken annually or at the start of the project, at medium term, and during terminal evaluation, using dedicated surveys.
- **Environment (or natural resource) management unit created within the ministry (department) of livestock — Yes/No.** This indicator measures the creation, staffing, and funding of a unit dedicated to environmental management. Its functions may include environmental monitoring, assessments, awareness raising, capacity development among public servants and private sector, administration of environmental funds, and development of policies and regulations.
  - Quantification may be reported annually using project advancement reports.
- **Irrigation water used in feed production — Cubic meter per unit of feed.** This indicator measures the amount of irrigation water used for feed production (e.g., expressed in cubic meter per unit of dry matter of cubic meter per unit of digestible energy).
  - Quantification may be reported annually based on sampling and direct measurements following a predefined protocol. <http://www.fao.org/partnerships/leap/publications/en/>
- **Pesticides used in feed production — Amount per unit of feed.** This indicator measures the amount of pesticides used for feed production (e.g., expressed per unit of dry matter or per unit of digestible energy).
  - Quantification may be reported annually based on sampling and direct measurements following a predefined protocol. <http://www.fao.org/partnerships/leap/publications/en/>
- **Amount of animal source food in diet — Grams per capita per day — variation in percentage.** This indicator measures the increase or decrease in animal source food in human diets, within a beneficiary population (kilogram intake per capita per year). It distinguishes populations having low or high baseline consumption, for instance, by using national dietary recommendations as a reference.
  - Quantification may be undertaken annually or at the start of the project, at medium term, and during terminal evaluation, using dedicated surveys.
- **Natural habitat restored/protected — Ha.** This indicator measures the area of forest, natural grassland, and other natural areas that remain protected or are restored under the project.
  - Quantification may be reported annually based on the sampling and direct measurements following a predefined protocol. <http://www.fao.org/partnerships/leap/publications/en/>
- **Competition with food production — Share.** This indicator reports the change in the portion of feed consumed by livestock in the project that is not directly human-edible or is produced on land not suited for crop production.
  - Quantification may be undertaken annually or at the start of the project, at medium term, and during terminal evaluation, using dedicated surveys.