Layer Chicken: Calculating ROI and Break-Even Points in Egg Production

> *"Revenue is not profit. This is the most important financial distinction in layer farming—and the one most consistently ignored when a farmer looks at XAF 42 million in egg sales from a 1,000-bird flock and concludes the farm is doing well."*

The XAF 42 million in revenue cost XAF 21 million in feed, XAF 800,000 in health inputs, XAF 900,000 in labor, XAF 600,000 in utilities, XAF 400,000 in consumables, and XAF 4.5 million in CAPEX recovery.

That is XAF 28.2 million in costs against XAF 42 million in revenue—a **net profit of XAF 13.8 million** over a 17-month production cycle, or approximately XAF 812,000 per month.

Part 1: Return on Investment (ROI)

Return on investment measures how much profit the farm generates relative to the capital invested. It answers the question: "For every franc I put into this farm, how many francs do I get back?"

$$ROI\ (\%) = (Net\ Profit \div Total\ Investment) \times 100$$

Base Case: 1,000-Bird Layer Farm

Investment Breakdown	Amount (XAF)
Total CAPEX (Infrastructure + Equipment)	8,500,000
Initial Working Capital (Pre-revenue period)	4,340,000
Total Investment	**12,840,000**

Total Revenue: **XAF 49,800,000**
Total Costs: **XAF 25,500,000**
Net Profit: **XAF 24,300,000**

ROI (Per Cycle): **189%**
Annualized ROI: 126% per year

Part 2: Break-Even Analysis

Break-even analysis answers: "What is the minimum performance level at which this farm stops losing money?"

1. Break-Even Price Per Egg

$$\textit{Break-Even Price} = \textit{Total Costs} \div \textit{Total Saleable Eggs}$$

Using our model: $\textit{XAF 25,500,000} \div \textit{353,000} = \textit{XAF 72.2 per egg}$. At current market prices (XAF 120–160), the farm maintains a healthy buffer.

2. Production Break-Even

At XAF 140/egg, the farm must sell at least **361 eggs per day** to cover all costs. This requires only a 38% laying rate, providing a significant safety margin against the 80% target.

Part 3: Cash Flow - The Cycle of Survival

Profit is calculated over the cycle, but cash flow determines daily survival. The **Rearing Period (Months 1–5)** is pure cash outflow. A minimum reserve of **XAF 4.0–4.5 million** is required before any revenue is seen.

Part 4: Profitability Improvement Levers

- **Lever 1: Egg Price** – The highest impact driver. A XAF 20 increase adds XAF 7.06M to profit.
- **Lever 2: Laying Rate** – Every 1% improvement adds XAF 252,000 in revenue.
- **Lever 3: Feed Cost Reduction** – Feed is ~75% of OPEX. Mixing on-farm can save 15-25%.

Common Financial Mistakes

1. Confusing revenue with profit.
2. Not calculating break-even before starting.
3. Underestimating the cost of the rearing period.
4. Ignoring CAPEX recovery (depreciation) in calculations.

> ***"The farm that runs on data makes money. The farm that runs on hope runs out of money."***