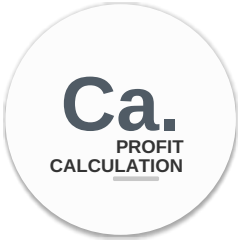
Poultry Farm Profit Calculation: A Detailed Step-By-Step Guide

January 19, 2019 by The Big Book Project — Leave a Comment

Are you need of running a poultry farm profit calculation?

This is just the guide for you.



Within this article I plan to take you through a reliable method for calculating the profit of any poultry farm.

"Is this tutorial for me?"

You won't walk away disappointed.

I'm not skirting around any detail.

All methods are fully repeatable.

This process works for any country...any bird.

Pressed for time and can't read the whole guide right now?

No problem. Let me send you a PDF download of this article to your email inbox:

Yes, give me my download PDF to take away!

[Note: this webpage has TONS of free resources further down which are not included in the PDF.]

If you haven't already downloaded the **PDF version of this post** by clicking on the button above:

We advise you do (!)

The tutorial is exhaustive.

Just in case at any time you want to return where you left off, it's definitely worth taking a copy.

So now, finally...

Take a pencil and pad to practice as you go along:

Ready?

Set?

Go.

Contents *[hide]*

Why Did We Write This Guide On Poultry Farm Profit Calculation?

It's got to be the ***number one 'most asked question'*** *regarding running a successful poultry farm...of any sort.*

"How much profit can I make from running a..."

[Seconded by -"Is it profitable to run a..."]

- ***layer farm?**, Or;*
- ***broiler farm?***

The answer is: you're asking the wrong question.

Any business can be profitable, if you get the basics right.

And that's exactly the goal with this tutorial.

Getting the basics right with calculating poultry farm profit.

From every aspect...every side...any type of production.

Sure, it sounds like a big ask...

But by being systematic - we hope to cover all bases and make this applicable to you, no matter what.

Lets start with some definitions.

What Do We Mean By Profit, Surplus Or Yield?

To make sure we start of on the right foot together, let's first define EXACTLY what we mean by profit.

Quote from Investopedia:

*"Profit is a financial benefit that is realised **when the amount of revenue gained from a business activity exceeds the expenses, costs + taxes** needed to sustain the activity.*

Any profit that is gained goes to the business's owners, who may or may not decide to spend it on the business.

Profit is calculated as total revenue less (minus) total expenses."

Further reading:

- What Is Profit? - Investopedia

Here's what we **learn about profit** from the quote above...:

- **what profit means**...'*surplus revenue above expenses, costs & taxes'*
- **what happens to it**...*'drawn down as owner's earnings or reinvested'*
- **how to calculate it**...'*total revenue minus total expenses'*

But is this an overly simplified approach to calculating profit?

Are there further complexities?

Our answer to these is: yes.

Profit is a general term, but can be expressed in many ways according to various contexts.

The word profit therefore must be accompanied by either pretext or context in order for the benefit of distinction and understanding to be granted to the reader.

The following are the common **types of profit** which we will mention at regular intervals within the writing of this tutorial:

1. *profit margin (%)*
2. *gross profit*
3. *operating profit*
4. *ebitda*
5. *net profit*

...whilst they all relate to some aspect of gain, beyond the comparative costs - each tells of the gain-ability of the farm as viewed at **different stages throughout the chosen business model** .

Definitions Of The Different Types Of Business Profit

#1 Profit Margin...

Refers to:

- *The '**proportion**' **of surplus revenue gained from the sale of a single unit of productivity**.*
  - *This figure is often quoted as a **percentage** **(%)** of the total sale value received in revenue.*
- ***Further reading**: Profit Margin - Investopedia*

#2 Gross Profit...

Refers to:

- *The **'amount' of surplus revenue gained from the sale of either a single unit or collective units of productivity above and beyond the subtraction of the corresponding direct costs of said sale(s).***
  - *This figure is quoted as an absolute number.*
- ***Further reading**: What Is Gross Profit? - Patriot Software*

#3 Operating Profit...

Refers to:

- *The **'amount' of surplus revenue gained from the collective sales of a given period above and beyond the subtraction of both the corresponding direct costs of said sales AND(!) all other associated running expenses related to that business.***
  - *This figure is quoted as an absolute number.*
- ***Further reading:** What Is Operating Profit? - Business Literacy Institute*

#4 Earnings Before Interest Taxation Depreciation & Amortisation (EBITDA)

Refers to:

- ***What surplus revenues remain from operating profit after removing the expenses of depreciation and amortisation of capital assets held** - in other words this is the operating profit without the consideration or measures accounting for replacement of equipment and buildings held by the business.*
  - *This figure is quoted as an absolute number.*
- ***Further reading:** What Is EBITDA? - Corporate Finance Institute*

#5 Net Profit...

Refers to:

- ***What surplus revenues remain from EBITDA when all necessary deductions have been subtracted for interest payments, taxation, depreciation and amortisation*** *(i.e. the accounting treatment of writing off a used capital asset of the time of duration of reasonable use)*
  - *This is an absolute figure.*
- ***Further reading:*** *Net Profit Definition - Financial Times Lexicon*

What happens to net profit?

Net profit is then either **drawn down (taken) as earnings** by the owners of the business & their investors according to a pre-arranged schedule...

Or,

Reinvested into the business for:

- expansion (growth),
- consolidation or
- improvement.

Now let's take a look at how these various definitions of profit 'interact' with one another...

Whilst distinct, i.e. different from one another, the definitions of the various types of profit above are not separate from one another.

One impacts on another and also feeds another.

It is a generation of surplus, which adds the benefit from the *previous* stage on to a *following* stage.

The end?

Earnings for the owners.

The whole point of business (...not discounting nor devaluing the service to customers which is the source of profit.)

> Now to see how these distinct definitions interact:
>
> 1. **Profit margin** *multiplied by volume of sales* = **gross profit**
> 2. **Gross profit** *minus running expenses (without depreciation & amortisation)* = **EBITDA**
> 3. **EBITDA** *minus expense of depreciation & amortisation* = **operating profit**
> 4. **Operating profit** *minus expense of tax & interest payments* = **net profit**
> 5. **Net profit** = **earnings** or **reinvestment**

Whilst we can see how the various definitions of profit relate to one another from the box above...

What we don't see is what happens when they don't provide the benefits they should to your business.

Let take a look at this below:

The Following Are Real Financial Risks Associated With Getting The Profit Balance Wrong In Poultry Farm Profit Calculations:

1. ***Undervalue the price of products*** *(or services) or buy* ***production cost inputs which you cannot sustain*** *- then you reduce or even collapse your incremental margin.*
2. *A collapsed margin means* ***no gross surplus to pay the running expenses*** *of your poultry farm.*
3. ***Unpaid running expenses*** *means what should be assets to your business i.e. equipment, buildings, staff, etc. fall into* ***complete decay*** *leaving your poultry farm desolate.*
4. *A* ***desolate (loss making)*** *business makes no profit but may still have some taxation levies owing such as VAT etc and even repayments of interest on debts.*
5. *Finally, there are* ***no earnings*** *to be withdrawn by owners nor returns for investors.*
6. *Efforts (time & resources)* ***entirely wasted****.*

This is entirely avoidable - if due diligence and preparation with correct methodology is applied.

Further reading: Pricing Your Poultry - Penn State University

Before We Dive Into Our Practical Example Poultry Farm Profit Calculation...

We declare once more an important definition.

The pricing & cost models (that we shall use).

Why do we need to declare pricing and cost model?

Because there are many ways to charge for the use of a poultry farming product...

And many ways and factors involved in paying for goods and services used in operating a poultry farm.

As not to leave you in doubt when following our practical profit calculation below, we tell you exactly our methods used in arriving at our numbers calculated.

So, Which Pricing Model Do We Use In Our Poultry Farm Profit Calculation?

Answer: **market-based** pricing model *verified by* **cost-based** pricing.

What does this simply mean?

Market-based: we will be using a benchmark technique by which we'll simply be taking a mid-market equivalent price for the product to estimate our adopted price.

- **Further reading**: Market-Based Pricing - MBA Skool

Cost-based: we will comparing our market derived price from the method above with an arbitrary price based on the collective costs of the poultry farm business with an additional margin of profit applied on top.

(But how much profit should we add on top exactly? We'll take an industry average...to be discussed further on.)

- **Further reading**: Cost-Based Pricing - Accounting Tools

And How Are We Going To Approach Costing In Our Poultry Farm Profit Calculation?

Answer: **Total Absorption Costing** method (TAC).

"Please interpret..."

"Gladly!"

In business operations, there are two types of cost.

Variable costs (direct) costs: which vary with the increase or decrease of production output and therefore are directly related to production.

- In the example of a poultry farm...
  - **e.g...poultry feed** - the more chickens for meat or eggs you produce, the more bird feed you will require to sustain them. This is a variable or direct cost of goods sold.

Fixed costs (indirect) costs: which do not vary with the increase or decrease of production output and therefore are indirectly related to production levels (at the current capacity)...these are often termed as 'business overheads'.

- Again, in the example of a poultry farm...
  - **e.g...building insurance** - the number of chickens you have in a chicken house doesn't change or influence the cost of structural building insurance. [**However**, we accept that without the flock of chicken, you wouldn't incur the cost (albeit even indirect) of the hen house, or it's associated costs like insurance.] This is both a fixed & indirect cost a i.e. it doesn't move relative to production output at the given capacity.

The question remains...

In order to confidently appreciate the *real profitability* of our poultry farm at the most finite or 'granular' level (i.e. every grain)...

How do we correctly allocate the costs detailed above?

[Whether direct costs or otherwise?]

Whilst it's straight forward to allocate evenly and accurately the direct costs of sale to each unit of productivity, like:

- cost of feed per broiler bird sold, or;
- cost of feed per egg produced & sold

It becomes more difficult to appropriately allocate indirect costs like building insurance. By definition, they are not directly related to the production of either chicken meat or eggs.

So how do we allocate indirect costs proportionally to each product sold?

We arbitrarily apportion indirect costs by **dividing the overall cost of the overhead by the number of products due for sale** in the inventory/stock.

This method of cost allocation is called *Total Absorption Costing*.

Now, for our **illustration** poultry farm profit calculation...

Let's get into the practical exercise!

But before we start...(!)

Do you have pen and paper ready?

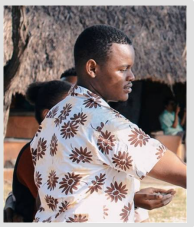
There are points within this step-by-step tutorial where we will use example figures for prices and costs.

Whilst our calculations should prove accurate - we advise you have your own inputs to use.

Now without further ado...

let's dive right in.

An Example Poultry Farm Profit Calculation

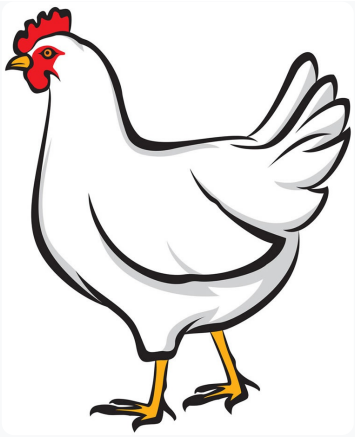


Meet our start-up Kenyan poultry farmer - **Fredrick**.

A qualified engineer, seeking a change of career.

Him and his wife are keen agriculturalists by hobby.

He wants to set-up a layer poultry farm selling eggs using KARI Kienyiji breed chicken.



He has a little over 8,000 sq. ft. (about a 10th of the size of a professional football pitch - a modest size) of available land on a smallholding home in Kisumu and wants to run his layer farm from this site.

Together, Fredrick and his wife have plans to visit model Kenyan poultry farms to learn 'first hand' what it will take to run a successful layer farm.

Where Did Fredrick Begin?

As part of his desk research, he decided to pin down some precise profit estimates to guide their expectations for earnings - should they decide to run this full time and give up their jobs.

Having conducted some research online, Frederick comes across our article:

- **Poultry Farming Project: 12 Steps To Writing Your Report & Proposal (PDF)**

He found it useful (...we hope you do to!)

So much so, that he feels confident to write his own report (with a little help from our online PDF generator)...

Although he's not looking for public funding or private investment for this start-up, he does want his business projections modelled professionally on paper.

This will give him peace of mind vs. the risk he takes on giving up his engineering career.

Fredrick Wants To Write Up A Profit Projection For His Layer Farm...

Having studied our example 10,000 bird layer farm project report - he feels he knows enough to extrapolate a model to suit his 8,000 sq. ft. layer farm.

For a little professional assistance, he gets in touch with The Big Book Project and we offer him an initial free poultry project consultation.

In our free consultation with Fredrick, we share many tips and examples for him to take away - most notably a **price/cost model for calculating his poultry farming profits**.

The detail, we share with you

Step #1 - Draft Up The Capital Start-Up Costs

We begin with the capital start-up costs of the project.

Although, Fredrick and his wife will fund the start-up process entirely by themselves using savings from the previous 5 years employment.

We will still need to account for these costs within the model.

Why?

Because Fredrick and his wife will expect the farm enterprise to pay them back for the equivalent value of employed labour lost in savings to start the farm.

These are his findings...

Hen housing

Fredrick chooses a 1+2 layer farm rearing model.

He aims for a laying capacity of 2,000 layer birds (adopting this layer rearing model of 1+2, simultaneously he will also keep 1 batch of 1,000 brooder/growers alongside the mature layers.)

This gives an overall headcount of 3,000 birds at any one interval.

This means he will have 1x brooder cum grower house and 2x layers houses.

The minimum recommended floor space for the brooder cum grower house according to the FAO (*Food and Agriculture Organization of The United Nations*) is 1.36 sq. ft. per bird x 1,000 birds = 1,360 sq. ft.

The minimum recommended floor space for each layer house according to the FAO is 1.94 sq. ft. per bird x 1,000 = 1,940 sq. ft.

...multiplied by (2x) for 2 layer houses, and you have a total layer floor space (albeit divided across 2 layer sheds/houses) of: 3,880 sq.ft.

...plus the brooder cum grower house that equals:

5,240 sq. ft. minimum floor space of housing

Fredrick has friends in the building trade and plenty of raw materials at his home from previous improvement projects.

This will bring down his building costs drastically.

His total cost of building poultry housing will be: 52,000 KSh

Water

The site has a good supply of drinking water being a functional smallholding.

Fredrick is going tap into his existing supply.

The expected supply required for consumption for a total flock size of 3,000 birds is as follows, according to the FAO guidelines:

Peak water intake projected for 2,000 mature layers is: 640 litres per day

Peak water intake projected for 1,000 grower birds is: 160 litres per day

Add these together...

And you get: 800 litres of fresh drinking water required per day, to refresh your flock of 3,000 birds.

Fredrick will buy a water storage tank from which he will fill his drinkers to place in his hen houses.

The storage take will cost him: 26,000 KSh.

Electrics

Fredrick's onsite electric hook-up is insufficient to reach the poultry houses once built.

He decided to by a gasoline generator with extensions for supplying power to his poultry houses.

This will suffice the need for lighting and heating, especially for the young chicks/brooders.

The generator cost is 40,000 KSh.

Egg Store Room

Frederick will utilise a disused double garage as an egg store room.

He'll need to clear it out as he uses it for domestic storage currently.

Once clear, it will suffice to store eggs in preparation for market delivery.

There is no cost associated with this preparatory work.

Egg Trays

With a batch size of 1,000 in this 1+2 layer rearing system and a laying capacity of 2,000 birds...

Fredrick can expect to produce around 12,460 eggs per week on average at peak laying capacity.

He has found a durable plastic egg tray to present his eggs on for his wholesale buyers.

Each tray holds exactly 42 eggs at once.

12,460 eggs divided by 42 eggs per tray = 297 trays.

He buys twice as many trays to be able to deliver filled trays and collect used trays once a week.

Fredrick will buy 600 trays from an online vendor for 46,000 KSh.

License

Kenya Bureau of Standards (Kebs) in Nairobi require every poultry farmer to hold a valid license in order to legally trade eggs.

The permit has a fee of 11,300 KSh.

Before issuing they take samples of eggs and test for Salmonella etc.

Heating

Fredrick finds out that in order to keep his chicks well heated in the brooder house, he will need 2x 250 Watt bulbs.

Together with lamp shades suspended from the ceiling of the brooder house, his cost will be:

6,500 KSh.

Feeders

Fredrick's research led him to find out that he would require (105 units) 6ft. long linear feeders per 3,000 birds.

He finds a supplier selling plastic feeders with adjustable height to accommodate growth of bird for:

1,200 KSh. per feeder...

Therefore the total cost of feeders for this project is: 126,000 KSh.

Drinkers

As calculated by Fredrick, according to FAO guidelines, his flock of 3,000 birds should take on about 800 litres of fresh drinking water per day.

He finds a supplier selling 8 litre drinkers for 300 KSh. each

He plans on buying 100 units, in total costing him 30,000 KSh.

Other associated costs for equipment

Fredrick's estimations are that he will require the following items also for his poultry farm:

- A few shell grit boxes
- Ventilation fans for his layer houses
- Egg washers and one or two miscellaneous purchases

The total costs of the said equipment will be approximately:

90,000 Ksh.

Marketing & Branding

Fredrick enjoys computer software and design.

He'll design his own logo and promotional materials for marketing and sales of eggs.

He has a home office, full colour printer scanner which will do the job of printing what they need to get going.

No cost here.

Transport

Fredrick needs a van to fulfil his wholesale egg deliveries.

He currently has a used car for domestic travel which he would happily trade in for the right van.

It's resale value is 300,000 KSh.

A van of the approximate specification necessary has been located for: 930,000 KSh.

If part exchanged, Fredrick and his wife could land themselves the van for only

630,000 KSh.

TOTAL CAPITAL COSTS OF START-UP:

1,034,800 KSh.

Savings and recouping investment

Fredrick and his wife have 2,400,000 KSh. in savings from the last 5 years of employed work.

They would happily use 1,034,800 KSh. of it to fund the 1 off capital purchases to start their chicken farm

They would expect however, that their Kienyiji chicken layer farming business to replenish their savings within 6 years of labour.

How much, per month, on average would they need to make above their earnings to replace the start-up capital used for one-off purchases - over the 1st 6 years of trade?

Simply - 1,034,800 KSh. divided by 72 months (6 years)

= 14,372.22 KSh. per month

That is, of course, in addition to supplying them with a working household

wage.

In addition to this, Fredrick will seek to replace his capital assets within 6 years of use because of wear & tear or obsolescence.

Fredrick continues with this profit projection exercise to test his idea's earnings viability.

Step #2 - Tally Up The Recurring Overheads Of The Poultry Farm

The overheads for running a poultry farm of this type are as follows (this does not include the direct cost of sale like feed for example):

1st Year Overheads

Insurance (Buildings & Flock) - the cost of one year's premium to cover livestock loss or building theft/damage

2,200 KSh.

Deep Litter - this litter is what is used to cover the floor of the poultry houses, this is replaced once per year

1,200 KSh.

Medicines - Fredrick and his wife are opting for natural health supplements in place of vaccines

6,400 KSh. (for 2 batches per year using 1+2 layer rearing system)

Electricity - it is estimated that the electricity bill for the poultry houses per annum, particularly for the brooders heating will be:

84,000 KSh. (roughly 7,000 KSh, per month)

Transport - getting eggs to local hospitality customers like hotels and catering businesses weekly will run the following annual costs:

11,000 KSh.

Miscellaneous - other costs such as printing flyers, phone bill, internet etc. will approximate the following:

1,500 KSh.

TOTAL OVERHEADS PER ANNUM:

106,300 KSh.

The figure above is therefore the recurring cost for running the poultry farm outside of direct costs of sale.

Fredrick and his wife would have to stump up the cash to cover the first year of overhead costs also from their savings.

This would allow the business to grow without the immediate pressure of having to sustain it's costs itself...

A sort of brooder phase for the farm - being in need of some financial nurture.

Step #3 - Now To Identify The Direct Costs Of Sale

The direct costs of sale for the layer poultry farm will are simple enough to identify.

Here are Fredrick's workings out...

Buying day old chicks

With an expected mortality rate of 5%, Fredrick buys 1,050 chicks in each batch.

He does this in order to maintain the feasibility of his earnings expectations, in the event of average bird mortality.

Fredrick finds a hatchery selling 1 day old Kienyiji chicks for 85 KSh. per

chick.

His cost therefore to buy his first batch would be: 89,250 KSh.

In the first year, according to the 1+2 layer rearing model, he intends to buy 2 batches.

This makes his year 1 cost for purchasing 2 batches of Kienyiji chicks: 178,500 Ksh.

Buying bird feed

Fredrick discovers in his desk research FAO estimates for layer feed consumption.

He calculates that his 1st year layer feed consumption using:

- 1+2 layer rearing system with a batch size of 1,000 (1,050 including expected bird mortality)...

will equal: 41,669.25 kg (...for first year feed to get his first two batches of birds on the road to maturity for year 2)

He finds a supplier of maize germ and other mash ingredients which will sell at 38 KSh. per kilo

Fredrick's 1st year cost of bird feed therefore would be: 1,583,431.50 KSh.

TOTAL FIRST YEAR COST OF SALE: 1,761,931.50 KSh.

Step#4 - What About Revenue? Calculating The Expected Sales Revenue Of The Poultry Farm

So we've tallied up the components of costs.

But now we need to make some sense of the potential sales revenues on offer within this proposed poultry farm of Fredrick's.

Now we clearly understand thus far that the primary output of layer farm production is eggs.

But before we get into calculating sales revenue from eggs, we ask...

"Are there any other revenue streams which layer poultry farms typically make?"

In a word:

Yes!

According to optimal commercial viability, as quoted by the FAO, layer birds become unprofitable at age 72 weeks.

After this age, their productivity as a percentage of peak output reaches approximately 70%.

This by general yardstick becomes a loss making exercise.

So, what happens to layer chicken which reach 72 weeks of age?

They are sold as 'spent hens' at market.

Spent hens - not bearing the fuller bodied characteristics of their broiler counterparts - are by comparison lighter in weight and generally tougher in texture.

'Spent hens' therefore fetch a lower price at the meat market and are usually sold as cheaper domestic meat alternative.

Are there any other sources of income which a layer farmer can expect to make?

Yes.

Chicken manure.

Crop farmers are continually looking for cheaper and more natural alternatives to fertiliser.

Packed down deep litter over the course of a year of rearing can be prepared as crop fertiliser and sold to neighbouring crop farms.

Any income made this way is profit only.

Let's see what Fredrick makes of his income calculations...

Having done a little research he finds out that a tray of 30 eggs is sold to retailers for about 280KSh.

This works out at just under: 10 KSh. per egg

But just how many eggs should Fredrick expect to produce within his first year?

Take a look...

Dependent upon the rearing system chosen by Fredrick (1+2), FAO guidelines estimate his poultry farm to produce:

193,690 eggs

[That number is set to fluctuate year on year as the overlap of batches and the relative ages of the birds, and therefore production, is not identical every year.]

1st year egg revenue is therefore estimated to be:

1,936,900 KSh. (193,690 eggs x 10 KSh.)

What about spent hens?

In his region, Fredrick found the price fetched for a spent hen to be: 200 KSh.

In year one (1st 52 weeks) he will not have produced any spent hens, being 72 weeks old by definition.

So therefore, Fredrick will not earn any revenue in year one from spent hen sales.

Manure sales?

According to research published by the University of Hawaii, the average layer

hen produces 130 lbs. of manure each year.

According to Fredrick's adopted layer rearing system of 1+2, his first batch of 1,000 chicks (1,050 chicks including his addition for expected bird mortality) is purchased on day one.

By the end of the first year, they are 52 weeks old.

At week 28, Fredrick buys another batch of 1,000 chicks (1,050 actual number).

One average, because his chicks will produce much less manure than mature hens, he averages out his calculation of manure production in year one to be extrapolated from an equivalent flock size of 1,000 mature birds...

...as such he estimates 130,000 lbs. (just over 58 tonnes) of manure to be produced in year one of operation.

Fredrick intends to re-use old feed bags to package up his chicken manure for selling as fertiliser.

Average prices online for selling chicken manure are on average about 2 KSh. per kilogram...

130,000 lbs. = 58,967 kg

58,967 (kg of manure) x 2 (Ksh. per kg)

= 117,934 KSh. potential income from manure sales in year 1

So, where does all this leave us with our poultry farm profit calculation?

Well, all this preparation gives us the necessary inputs to make some well grounded projections of Fredricks potential profit.

Not just in year 1, but also across the first 6 years of trade.

Let's start calculating profit!

Step#5 - The Breakdown - Fredrick's Poultry Farming Profit Calculation

Let's take this opportunity to re-list the various types of poultry farm profit:

- **Profit margin** *multiplied by volume of sales* = **gross profit**
- **Gross profit** *minus running expenses (without depreciation & amortisation)* = **EBITDA**
- **EBITDA** *minus expense of depreciation & amortisation* = **operating profit**
- **Operating profit** *minus expense of tax & interest payments* = **net profit**
- **Net profit** = **earnings** or **reinvestment**

Having reminded ourselves of the fact that profit is a general term which requires pretext to give accurate meaning...

We now breakdown Fredrick's poultry farm situation on paper - one definition of profit, at a time:

> **Reminder:**
>
> Our adopted pricing model was market-based and cost-based combined.
>
> In other words we begin by taking a mid-market rate as defined by research, then...
>
> simply measure the feasibility of making profit at this price against the calculated costs.

Fredrick's researched market rate for egg price (wholesale) is 9 Ksh. per egg...a conservative estimate.

But is this a feasible price for Fredrick to charge for his eggs, given his cost scenario?

`Let's find out...`

`Profit margin`

`Sale price per egg = 9 KSh.`

`The average bird in the flock produces 295 eggs per year under optimal conditions.`

`The average feed consumption of a layer bird over the 72 week commercial batch cycle is 45kg (per bird).`

The price per kilogram of layer mash on average is 38 Ksh.

The total cost of feed therefore per bird for an entire batch cycle of 72 weeks is

= 1,710 KSh.

...divide this feed cost, by the number of eggs produced per layer bird on average, throughout the same 72 week batch cycle and you get:

= 5.80 KSh. (1,720 KSh. / 295 eggs) of equivalent cost of feed to produce a single egg

Next, take the cost of each chick bought from the hatchery which for Fredrick was 85 KSh.

Then, divide this number by the number of eggs produced during the commercial laying cycle of 72 weeks...

= 0.29 KSh. (85 KSh. / 295 eggs)

Now, add the two proportional costs together...

5.80 KSh. + 0.29 KSh.

= 6.09 KSh.

Against the price of egg quoted above of 9 KSh.

this leaves (9 KSh. - 6.09 KSh. =) 2.91 KSh. profit per egg sold or 32% profit margin per sale.

Making 9 KSh. per egg a feasible and valid price indeed - at this stage.

This profit margin, however, does not represent in any way 'take home pay...or earnings' because it doesn't take into account start-up costs, overheads or depreciation (nor indeed tax).

NOTE: the following profit calculations are based on egg revenue only - not including

revenue derived from manure sales or spent hen sales.

We want you to appreciate that revenue in those secondary and tertiary areas of sales are additional.

To make the profit analysis clear & traceable, we wanted you to relate the profits below on a 'per egg' basis. Hence the omission of manure & spent hen sales.

Gross Profit - Running Costs = EBITDA

Let's absorb those running costs...

Fredrick works out that using his 1+2 layer rearing system his farm would produce at full capacity approximately 550,000 eggs per year.

Divide his estimated running costs of 106,300 KSh. by the number of eggs produced (550,000 eggs) and you get:

= 0.19 KSh. of overheads absorbed per egg produced/sold

The calculation for EBITDA per egg sold, taking into account the running costs above is as follows:

= 2.91 KSh. - 0.19 KSh. (for running costs)

= 2.72 KSh. EBITDA per egg sold (this is now 30.22% gross margin)

EBITDA - Depreciation/Amortisation = Operating Profit

Now, Fredrick wants the egg revenue to absorb the cost of replacing capital equipment or buildings in 6 years time should they wear out of become obsolete.

The cost of capital equipment above including poultry housing totalled:

= 408,500 KSh. one off capital cost

To divide this across 6 years of trade...

Simply multiply the number of eggs estimated for 1 year (550,000 eggs) to be multiplied by '5' to represent 5 full-years of production...

Plus, 1 year sub-optimal production, being the first year of rearing when your first 2 batches are maturing and there are no mature hens to output as yet.

Fredrick's sums look like this:

(550,000 x 5) + 193,690

= 2,943,690 eggs produced in the first 6 years of running his layer farm

...now, we divide the total start-up equipment cost by the number of eggs to be produced over the first 6 years of production to get the start-up equipment proportion absorbed per egg produced/sold:

= 408,500 KSh. (capital equipment/building cost) / 2,943,690 eggs

= 0.14 KSh. of start-up equipment costs absorbed by each egg sold over the first 6 years of trade

...take this away from our EBITDA per egg and we get...

= 2.72 KSh. - 0.14 KSh. (for capital start-up equipment)

= 2.58 KSh. operating profit per egg sold (28.67% margin per egg sold)

Replenishing the savings pot!

Fredrick and his wife also want to replenish the savings pot remember.

That 1,034,800 KSh. they spent to get started needs to go back into the bank.

They agree to task the poultry farm with paying this back over 6 years.

In order to have the available margin proportionally absorb this figure also,

we simply divide the start-up capital figure of 1,034,800 KSh. by his 6 year egg production figure...

= 0.35 KSh. of savings replenishment absorbed by each egg sold over the first 6 years of trade

...take this away from our operating profit per egg and we get...

= 2.58 KSh. - 0.35 KSh. (for savings replenishment)

= 2.23 KSh. of available earnings per egg sold (24.77% margin per egg sold)

Operating Profit - Tax & Interest = Actual Earnings

Whilst Fredrick took no loan (debt) to start-up, he figured he ought to remove from the profit of each sale the cost of interest which he would have otherwise gained on his and his wife's savings had they kept their money with the bank.

They both had a KCB Goal Savings account offering 8.5% annual interest rate.

Before we deduct lost interest from invested savings, let's take a look at the tax situation...

NOTE: We are neither tax advisors nor claim to be offering this type of service.

We simply wanted to present an outline scenario - again - completely fictitious to guide you in understanding the implications of poultry farming profit.

According to 'proposed' Kenyan tax law changes Fredrick could be liable to pay the following tax rates depending of course on farm earnings:

- 11,181.50 KSh. per month will attract taxes at 10 per cent
- 32,249 KSh. will be taxed at 20 per cent
- 25 per cent on incomes up to 42,782.30 KSh. per month
- 42,782.30 KSh. falls in the upper-most band that will attract the top tax rate of 30 per cent

Fredrick figures out that if his available earnings per egg is 2.23 KSh...

And he is expected to sell approximately 550,000 eggs per annum (including breakages etc.)...

His poultry farm will produce annual available earnings of:

= 1,226,500 KSh. per annum

= 102,208.33 KSh. per month

He figures he will therefore enter into the upper band of tax liability should he decide to draw down the entire surplus figure as earnings.

At 30%, his tax liability would be ***approximately***:

= 367,950 KSh. income tax payable per annum

= 30,662.50 KSh. income tax payable per month

...subtract the figures above to arrive at the earnings after tax figure, and we get...

= 1,226,500 KSh. available pre-tax earnings - 367,950 KSh. income tax

= 858,550 KSh. after tax earnings per annum

= 71,545.83 after tax earnings per month

...AND FINALLY...

...if we also absorb the potential interest on savings he would have gained should he and his wife have left their savings in the bank...

the figures look like this:

their total original savings account balance was: 2,400,000 KSh....

...if they kept the whole balance of their savings in the bank at 8.5%, they would have earned the following figure in compounded interest (over 6 years):

= 1,589,520.20 KSh. compounded interest earned over 6 years (*assuming the rates remained the same and no withdrawals were made*)

...having deducted 1,034,800 KSh. from their savings to fund the start-up they leaves their new savings account balance as: 1,365,200 KSh.

Keeping this reduced balance figure in the savings account instead produces the following number as the 6 year interest yield:

= 904,172.07 KSh. compounded interest earned over 6 years (*assuming the rates remained the same and no withdrawals were made*)

But what would be the 'actual cost of interest yield lost' by Fredrick and his wife over the 6 years of waiting to replenish their potential lost savings interest, having plough their capital to self-funding their poultry farming project:

= 1,589,520.20 KSh. - 904,172.07 KSh.

= 685,347.93 KSh. of lost compounded savings interest over 6 years

...divide this figure by 6 (to spread it evenly over 6 years worth of earnings)...

= 114,224.66 KSh. (which is to be deducted from the after tax annual earning figure, in order to replace the lost benefit of savings interest)

...let's do that...

= 858,550 KSh. in after-tax earnings - 114,224.66 KSh. of lost savings interest

= 744,325.34 actual earnings per anuum average within the first 6 years of trade.

```
That does it...

Oh, one more thing...

Want to see what subsequent years actual earnings look like for Fredrick:

Take his operating profit per egg sold:

2.58 KSh. per egg sold...

Multiply this by 550,000 eggs produced per annum to get...

= 1,419,000 KSh. annual available earnings

Deduct 30% income tax from this...

= 1,419,000 KSh. x 0.70

= 993,300 KSh. annual after tax earnings...

Compared with 858,550 KSh.

That's an increase of (993,300 KSh. - 858,550 KSh.)...

= 134,750 KSh. increase in after-tax earnings (16% increase)
```

Now,

This business case study just wouldn't be complete without stating some obvious (...as well as, *not so obvious*) **assumptions upon which the enclosed calculations are based** :

- prices
- costs
- mortality rate
- production rate
- market demand

...all should remain consistent.

Step#6 - What Next?

We **highly recommend you go back through the detail of this example** and apply your own *situational conditions, currency, prices, costings and all other parameters* to see how things might look for your project.

> ***We must stress: the example above is entirely fictitious, although based on realistic-ish figures from our own research.***
>
> *The details above are not be 'relied on' for your own start-up planning - rather our intention was to provide a detailed illustration to help you see how you could look at calculating poultry farming profit.*

Our methods are based on our 10+ years of experience in professional business & financial management.

Our approach is not the **only** way to look at this kind of project...

But we would recommend that it is a *prudent* approach to poultry farm profit calculation.

Thanks for reading - happy profit planning!

Want to get your own scenario put through such paces by a professional poultry business consultant?

- Contact us.

Have any professional feedback on the methods used or definitions/figures quoted?

- Feel free to comment below - we welcome your thoughts.

Want to produce your own poultry farming project plan?

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