

# African Highland Farmer game

Have you ever wondered what it would be like to be a farmer in Africa? Well the **African Highland Farmer Game** is an interactive decision-making game, that takes you to the highlands of Tanzania, and challenges you to remain a viable farmer for 12 years.

***Can you survive this challenge?***

***Read this tutorial very well to increase your chances to survive 12 years!!!***

## Background

Small-scale farmers in Africa often find themselves in challenging circumstances: available land is limited and prone to land degradation, labour requirements are high, yields are often low, climatic conditions are erratic and unreliable, and in addition, farmers have to take care of their livestock, raise their children, pay school fees, and protect themselves and their crops from all kinds of diseases.

In this **African Highland Farmer Game** you will experience what it is like to be a farmer; you will face the same challenges that an average small-scale farmer in Tanzania faces on a daily basis. For instance:

- *What crops to grow?*
- *Buy or sell cattle?*
- *Send your children to school?*
- *Take an off-farm job?*
- *Invest in labour-intensive soil management measures?*

In the game, you are heading a small farmer family with two children. You start your first year with 6000 shillings in savings, 250% of labour available (i.e. 2 adults and 2 young children) and soil that has a fertility of 70% of its maximum potential. That's how your family starts farming!!

The ultimate goal is to **sustain your small-farm enterprise for 12 years**. But, the first years in the game are the most difficult years: you have to think strategically, choose the right crops, gain extra income, take care of your expenses, increase the soil fertility, and invest all the labour you have to survive these years. Once the farm runs well and money flows in, kids can go to school, and life becomes a bit easier..... However, every year certain disasters may occur that affect your crop yield or the health of your family, such as heavy rainstorms, droughts, malaria outbreaks, etc.

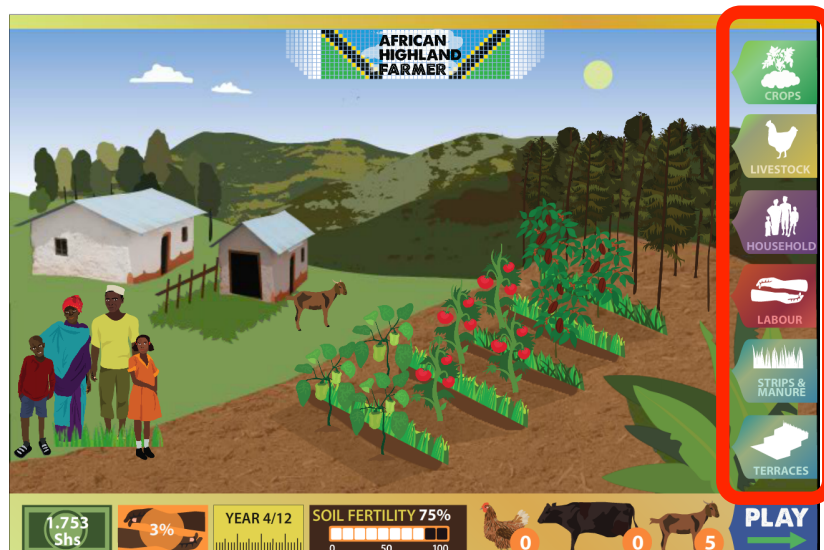
To achieve the maximum score and become an **Excellent African Highland Farmer**, you must not only survive for 12 years, but by the end of the game you must also:

- 1) *Have at least **6000 Shilling** in cash and animals for a prosperous future;*
- 2) *Have your first two children **finished primary and secondary school**;*
- 3) *Have managed your land sustainably and finish with **soil fertility at 100%**.*

## Instructions

### Your yearly decisions

After starting the game you come into the set up page, where on the right hand side of the screen you will see six boxes. Each of them displays a set of choices that you (as a farmer) have to make every year.



- **Crops:** You can grow staple crops (maize and beans) or cash crops (sweet pepper, tomato and coffee). Cash crops have a higher market value, but also require more labour.... Make your choice on which crops to grow, and how much of each. Crop prices are given also, they vary every year! You will also notice that you have the choice of whether or not to make pesticide applications for each crop. Spraying is of course not a sustainable practice, nevertheless very common in this region, especially by farmers who can afford to buy pesticides...
- **Livestock:** Livestock provides manure for your soil, and it provides extra income when livestock products (eggs or milk) are sold at the market. Livestock can also be a saving when a farmer is in need of money! However, livestock does require labour as you have to do a number of things to take care of the animals.
- **Household:** Decide whether to send your children to school. This is an expensive decision but it pays off when they finish primary/secondary school (after 7 years). It is also deterrent for getting a high-score or not! Also decide whether to treat your family with malaria medication as illness might affect your labour availability.
- **Labour:** For subsistence farmers, an important part of their income is often generated from off-farm income. Here you can decide about how to spend your labour, either off-farm or on somebody else's farm. You might even decide to hire labour for your own farm when this is a limiting factor. Try to spend all the labour you have available, it brings in more money!
- **Grass strips and manure:** To improve soil fertility, you can apply grass strips on your land combined with manure. However, you need to have enough animals to provide you with the manure (either 20 chickens, 5 goats or 1 cow) **before** you can use this option. Increasing your soil fertility level quickly (up to 100%) is however very important for generating more income from your crop sales. If you don't choose this option, your soil fertility will decline that year...
- **Terraces:** To improve the quality of your land, you can construct terraces on your field. Terraces greatly help in soil and water conservation! However, they cost part of your labour availability and have to be maintained each year. Building terraces on your land takes two years, but it is worth the investment: it raises your soil fertility to 80% and protects against heavy rainfall events ...

Click on each box and fill in your choices. Click on OK to save your decisions and then move to the next one. Once you have made all your choices – you will click on Play to see how the year goes.

### **Your counters**

At the bottom of your screen, you will find three counters that are of *crucial importance* in monitoring your progress as a farmer and in providing guidance into your chances to surviving for 12 years.



- **Money:** You start with 6000 Shillings, but remember ... *life is expensive!* *Beware:* You can afford a negative balance on your account for just 1 year, but the next negative year means *Game Over!*
- **Labour:** This indicates the percentage of labour available in your household. Husband and wife are 100% available, unless they are affected by malaria. This counter counts down as you make your choices. Try using all your labour!
- **Years survived:** It looks easy, surviving this game for only 12 years, but you will see that it is a real challenge!
- **Soil fertility:** A very important counter! Get it to 100% to increase agricultural production. Not having soil conservation practices will rapidly reduce your soil fertility, but you can of course invest in good practices!
- **Livestock:** Here you see the number of animals you have. With 20 chicken, 5 goats or 1 cow you have enough manure to increase soil fertility! And the best thing about livestock in this game: animals never die! Hence a good investment...

As you click on Play after making your choices, one year goes by and you will come to:

### **Your yearly balance screen**

This screen displays your yearly income and expenses.

Income comes from selling your cash crops, your livestock products (eggs, milk), from off-farm labour and (once finished secondary school) from the pension of your children.

Yearly disasters and events (such as low market prices) might however lead to losses, and reduce your income. Expenses depend on all the choices you have made in the previous year.

Thus the challenge is to **stay positive** and **remain focussed** on your total balance, every year for 12 years.

Good luck...

## DROUGHT

Low rainfall: this causes severe drought during the growing season and the loss of 50% of your production. With full terraces the loss is only 15%.

## ANNUAL SUMMARY

YEAR 4/12

HOUSEHOLD 2 ADULTS + 2 CHILDREN

SAVINGS 2.318 SHS

### INCOME

### EXPENSES

**CROPS** Sell Price x Area x Soil - Loss = Income

Sell Price x Area + Pesticide = Expenses

MAIZE	3.650	0%	75%	15%	0 SHS
BEANS	3.190	0%	75%	15%	0 SHS
SW.PEPPER	13.900	30%	75%	15%	2.658 SHS
TOMATO	14.570	40%	75%	15%	3.715 SHS
COFFEE	13.190	30%	75%	15%	2.522 SHS

MAIZE	540	0%	0	0 SHS
BEANS	930	0%	0	0 SHS
SW.PEPPER	570	30%	15	186 SHS
TOMATO	360	40%	20	164 SHS
COFFEE	5.700	0%	0	1.710 SHS

LIVESTOCK INCOME

900 SHS

LIVESTOCK COSTS

0 SHS

LABOUR INCOME

2.000 SHS

LABOUR COSTS

0 SHS

CHILD PENSION

0 SHS

LIVING COSTS

6.000 SHS

EDUCATION

0 SHS

MALARIA

200 SHS

ILLNESS

0 SHS

**TOTAL INCOME** 11.795 SHS

**TOTAL EXPENSES** 8.260 SHS

**TOTAL**  
**5.853 SHS**

**CONTINUE**

**Only read this when you get stuck in the game!!!!**

***Some tips to survive the first years and thereafter...***

- Getting an **off-farm job** is crucial for farmers in this region. These are small-scale farmers and having additional income is general practice. So always take one or more off-farm jobs to increase your income!
- **Labour** is the main asset of these subsistence farmers, so make sure that you use all your labour every year, get the counter to almost zero, the whole family must work to survive!
- Get your **soil fertility** rate as soon as possible to 100% because this will help you to produce more and gain income with farming. So make sure to buy as soon as possible enough livestock that provides manure for you soil!
- Invest in **conservation practices**, first of all the terraces (and maintain them every year!) and of course every year grass strips with manure as soon as you have sufficient animals to choose this option!
- Invest in **cash crops** (especially sweet pepper and coffee), these generate most income, especially when your soil fertility is high! But beware, after planting coffee it takes two years to start producing coffee beans, but then...
- Don't forget to spray your cash crops with **pesticides** to protect them from pests and diseases. Okay, we know it is very bad for the environment, but these subsistence farmers cannot afford to lose (part) of their yield.
- Life is expensive and especially the first years in this game are tough. So make some money in the first few years and only then start **sending your children to school!**

- *Finally, always get a **malaria treatment** for you and your family, because illness affects your labour, and lack of labour affects your chances to survive for 12 years!*