



Financial Planning for the Passion Fruit Enterprise

A financial plan shows you how much money you will need to start a farm business and how much you can expect to get from the enterprise. It can guide you on selecting an enterprise and will help assess how profitable your business is.



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What to consider when making a financial plan

A financial plan shows you all the money you need for the passion fruit enterprise.

1. Financial questions you should ask

- How much money do I need upfront in order to start?
- How much money will I need before I making any returns?
- When will I first start making money?
- Will passion fruit be your only source of farm income, or will you have other sources?



2. Resource Evaluation

Resources are all the things you need in place apart from finances to ensure your passion fruit business does well.

Look at the below list of resources and list

- a) Whether you have them.
- b) What you need to do to get them.

Resources	Details	Your comments
Skills	This looks at the technical and practical experience of the people who will work at the farm.	
Labour	Is labour available, is it reliable, how much will you pay the service providers?	
Land	What size are you going to plant the passion fruit? What crop was here the previous season? How is the drainage? Does this area have the right conditions for growing passion fruit?	
Soils	This looks at the type of soil, its texture, the pH, its fertility and if it is contaminated.	
Water	Is water available and what is your source? Is the water quality good? Are there other people using the same water?	
Climate	How are the seasons in terms of rainfall? What does the temperature look like, is it windy, sunny?	
Other costs	What other fixed and variable costs should I budget for? Refer to budgeting tools Go to: www.budgetmkononi.com	



3. Available Markets

When planning, keep in mind where you will sell the fruits, the possible prices and quantity needed by the target market.

In some markets, farmers enter into contracts with buyers where they have a guarantee for a ready market.

Do some research to know what is your best market. These are some features of the local, regional and export markets.

Type of the market	Quantity	Quality/ Grade	Prices	Reliability	Farmer engagement
Local market	Small	Any quality	Low, fluctuating	Low	Price based on season
Regional market	Huge	Average quality	High, fluctuating	High	Contract
Export markets	Huge	High quality	High, Constant	High	Contract

4. Enterprise Profitability

One of the ways to know if a business is profitable or not is to do Gross Margin Analysis (GMA). This will help you know if you can expand or scale down the business in future.

The section called “Gross Margin Analysis” will help you make this calculation.

Passion Fruit Yield Projection

The expected yield of passion fruit may vary depending on the climate, variety planted, how you manage your fruit in the field and whether you use irrigation.

Yield Potential

	Rain fed and well managed	Under irrigation and well managed
Purple	12-16 tons per acre	20 tons per acre
Yellow	20-25 tons per acre	30 tons per acre

Use the below table to project your yield based on the acreage you have. Projections of yields on purple passion fruit for an acre:

Month	Initial Harvest	1st Major Harvest	Low Season Harvest	2nd Major Harvest	Low Season Harvest	Low Season Harvest	Low Season Harvest
0-8	9-11	12-14	15-17	18-20	21-23	24-26	29-32
0	1/6 kg per vine per week	1/2 kg per vine per week	1/6 kg per vine per week	1/4 kg per vine per week	1/6 kg per vine per week	1/4 kg per vine per week	1/6 kg per vine per week
0	1/6*4*3*700	0.5*4*3*700	1/6*4*3*700	0.25*4*3*700	1/6*4*3*700	0.25*4*3*700	1/6*4*3*700
	1,400 kg	4,200 kg	1,400 kg	2,100 kg	1,400 kg	2,100 kg	1,400 kg
		Total yield				14,000 kg	

Projections of yields on yellow passion fruit for an acre:

Month	Initial Harvest	1st Major Harvest	Low Season Harvest	2nd Major Harvest	Low Season Harvest	3rd Major Harvest	Low Season Harvest
0-8	9-11	12-14	15-17	18-20	21-23	24-26	29-32
0	1/4 kg per vine per week	1/2 kg per vine per week	1/4 kg per vine per week	1/2 kg per vine per week	1/4 kg per vine per week	1/2 kg per vine per week	1/4 kg per vine per week
0	0.25*4*3*700	0.5*4*4*700	0.25*4*3*700	0.5*4*4*700	0.25*4*3*700	0.5*4*4*700	0.25*4*3*700
	2,100 kg	4,200 kg	2,100 kg	4,200 kg	2,100 kg	4,200 kg	2,100 kg
		Total yield				21,000 kg	

Gross Margin Analysis

How to calculate the gross margins of a cropping enterprise

Gross Income **MINUS** direct costs

Direct costs: associated with crop production operations, harvesting and marketing.

When calculating gross margins, you do not include overhead costs such as rates, living costs, insurance, as these must be met regardless of whether or not a crop is grown.

EXAMPLE

If your total Gross income was 250,000 KES and the money you spent to produce your passion fruit was 120,000 KES, then your Gross Income is:

$$250,000 \text{ KES} - 120,000 \text{ KES} = 130,000 \text{ KES}$$



Assumptions:

- Pests and diseases are adequately controlled.
- The right fertilizers are used as required.
- The passion fruit crop is irrigated during the dry seasons.



Typical direct and overhead costs for farms



Direct Costs	Overhead Costs
Land preparation	Administration; accounting, telecommunications
Planting material	Depreciation of machinery and equipment
Fertilizers	Farm insurance
Agrochemical sprays	Interest payment
Casual Labour	Repairs and maintenance
Contract harvesting cost	Salaries of permanent employees
Post-harvest on farm processing	Taxes
Transportation to market	Lease payments



Limitations of Gross Margins

Gross Margin Analysis does not capture all the costs incurred in the business like insurance, living costs among others, it is not a measure of profits but gives you a way to estimate the likely returns or losses of your farm business.

The below example Gross Margin Analysis is based on the following assumptions:

- a) The land size is one acre.
- b) Direct costs are gotten from local data available as of Oct 2022.
- c) Best farming practices were done e.g. use of fertilizers & control of pests and diseases.
- d) The passion fruits are Irrigated only during the dry seasons by pumping water from a nearby water source.
- e) Labour at 400 KES per man day.
- f) The price of yields is average and market price for the season estimated at 80 KES (purple) and 60 KES (yellow).

Gross Margin Analysis for One Acre of Purple Passion Fruit



ASSUMPTIONS					
No. of passion fruit plants	700				
Yield range	12-16 tons per acre				
Crop period	36 months				
Description	Activity / Particulars	Year 1	Year 2	Year 3	Total
INCOME (KES)	Sales (Kgs)	2,800	8,400	2,800	14,000
	Unit Price per Kg (KES)	80	80	80	80
	Total Income	224,000	672,000	224,000	1,120,000
DIRECT COSTS					
Land preparation	Soil test	5,000	0	0	5,000
	Tilling land	3,000	0	0	3,000
	Harrowing	2,000	0	0	2,000
	Marking holes	6,740	0	0	6,740
	Digging holes	16,850	0	0	16,850
Manure Application	Manure	13,480	13,480	13,480	40,440
Planting material	Buying seedlings (700)	35,000	0	0	35,000
Fertilizers	TSP or DAP	9,270	0	0	9,270
	CAN	9,705	9,705	9,300	28,710
	NPK 17:17:17	7,750	7,750	7,750	23,250
	Foliar fertilizers	4,800	4,800	4,800	14,400

Chemicals	Herbicides	2,000	0	1,200	3,200
	Insecticides	6,250	6,250	6,250	18,750
	Fungicides	7,500	7,500	7,500	22,500
	Nematicides	8,000	0	0	8,000
	Root drench	1,000	0	0	1,000
Trellising pruning and training vines	Poles (360/acre)	101,100	0	0	101,100
	Wires (3 rolls)	13,500	0	0	13,500
	U-nails (5kg)	1,000	0	0	1,000
	Sisal (10kg)	3,500	0	0	3,500
Labour	Transporting seedlings	2,100	0	0	2,100
	Spraying herbicides	400	0	400	800
	Transplanting	4,000	0	0	4,000
	Drenching	800	0	0	800
	Weeding	1,200	2,000	2,000	5,200
	Manure, fertilizer & foliar	6,400	6,400	6,400	19,200
	Spraying insecticides & fungicides	3,200	3,200	3,200	9,600
	Fixing poles	3,370	0	0	3,370
	Training & trellising	3,200	0	0	3,200
	Pruning & maintaining vines	3,200	3,200	3,200	9,600
	Harvesting Labour @ KES. 5 per kg	14,000	42,000	14,000	70,000
	Packaging crates	2,000	2,000	2,000	6,000
	Transportation of fruits	2,800	8,400	2,800	14,000
Irrigation	Irrigation	45,000	0	0	45,000
	Variables per year	349,115	116,685	84,280	550,08
	Total variable cost				550,080
	Gross Margin				569,920

Gross Margin Analysis for One Acre of Yellow Passion Fruit

ASSUMPTIONS	
No. of passion fruit plants	700
Yield range	20-25 tons per acre
Crop period	36 months

Description	Activity / Particulars	Year 1	Year 2	Year 3	Total
INCOME (KES)	Sales (Kgs)	4,200	12,600	4,200	21,000
	Unit Price per Kg (KES)	60	60	60	60
	Total Income	252,000	756,000	252,000	1,260,000

DIRECT COSTS					
Land preparation	Soil test	5,000	0	0	5,000
	Tilling land	3,000	0	0	3,000
	Harrowing	2,000	0	0	2,000
	Marking holes	6,740	0	0	6,740
	Digging holes	16,850	0	0	16,850
Manure Application	Manure	13,480	13,480	13,480	40,440
Planting material	Buying seedlings (700)	28,000	0	0	28,000
Fertilizers	TSP or DAP	9,270	0	0	9,270
	CAN	9,705	9,705	9,300	28,710
	NPK 17:17:17	7,750	7,750	7,750	23,250
	Foliar fertilizers	4,800	4,800	4,800	14,400

Chemicals	Herbicides	2,000	0	1,200	3,200
	Insecticides	4,685	4,685	4,685	14,055
	Fungicides	6,250	6,250	6,250	18,750
	Nematicides	8,000	0	0	8,000
	Root drench	1,000	0	0	1,000
Trellising pruning and training vines	Poles (360/acre)	101,100	0	0	101,100
	Wires (3 rolls)	13,500	0	0	13,500
	U-nails (5kg)	1,000	0	0	1,000
	Sisal (10kg)	3,500	0	0	3,500
Labour	Transporting seedlings	2,100	0	0	2,100
	Spraying herbicides	400	0	400	800
	Transplanting	4,000	0	0	4,000
	Drenching	800	0	0	800
	Weeding	1,200	2,000	2,000	5,200
	Manure, fertilizer & foliar	6,400	6,400	6,400	19,200
	Spraying insecticides & fungicides	3,200	3,200	3,200	9,600
	Fixing poles	3,370	0	0	3,370
	Training & trellising	3,200	0	0	3,200
	Pruning & maintaining vines	3,200	3,200	3,200	9,600
	Harvesting Labour @ Ksh. 5 per kg	21,000	63,000	21,000	105,000
Packaging crates	2,000	2,000	2,000	6,000	
Transportation of fruits	4,200	12,600	4,200	21,000	
Irrigation	Irrigation	45,000	0	0	45,000
	Variables per year	347,700	139,070	89,865	576,635
	Total variable cost				576,635
	Gross Margin				683,365

From the above projections on Gross Margin Analysis:

- You will not make a profit in Year 1 of passion fruit farming.
- In Year 2, passion fruit farming turns profitable.

Enterprise Profitability

The profit of a business enterprise is the money you get after you pay all costs. This is the revenue you get after subtracting all expenses.

In calculating the enterprise profit, fixed costs like installing drip irrigation and variable costs like fertilizer, chemicals are both taken into account.

Some Costs of Production that have an impact on the farmer's income can be controlled, while others cannot. Since farmers cannot always control the price they receive for their products, the goal is to reduce the costs of production.

High fixed costs usually affect the profitability of a farm and should be managed carefully. A reduction in fixed costs, without affecting production, could increase profits.





Irrigation

Irrigation is a key fixed cost and it greatly affects the profitability of the farm.

The weekly water requirements for both purple and yellow passion fruit is between 10 and 12 litres per vine. Drip irrigation is the most effective way of applying irrigation water with precision to passion fruit.

Irrigation ensures an all year round production in passion fruit and can increase your production by 40%.

To set up an irrigation system on your farm you need:

- A Pump
- Tanks
- Plumbing
- Main piping
- Drip piping
- Button drippers
- Connector sets
- End caps

NB: You can always come up with your own financial plan with gross margin analysis to suit the farm size of purple or yellow passion fruit e.g. $\frac{1}{2}$, $\frac{1}{4}$, 1 acre etc.

For more information on the budget, go to: www.budgetmkononi.com

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