

ANALYZING MARKET PRICE TRENDS FOR SMALLHOLDER COMMERCIAL FARMERS



INTRODUCTION

Smallholder farmers often face challenges in navigating volatile market prices, which significantly impact their profitability. This report provides an analysis of market price data for key agricultural commodities across Nairobi, Nyandarua, Nakuru, Meru and Kirinyaga counties. By examining seasonal trends, monthly patterns and geographic price variations, this study aims to empower farmers with actionable insights to make informed decisions.



OBJECTIVES



Analyze seasonal (quarterly) and monthly price trends for selected commodities.



Identify the best and worst times of the year for selling these commodities.



Highlight the top three priced markets per county for each commodity.



Provide real-time updates on wholesale and retail prices in the focus counties.



METHODOLOGY



Data Collection:

- Historical data for commodity prices and supply were cleaned and analyzed.
- Additional variables such as date, market area, county, and seasonality were included.



Analysis Techniques:

- Trend analysis for quarterly and monthly price movements.
- Comparative analysis of prices across different markets and counties.
- Seasonal decomposition to identify patterns.



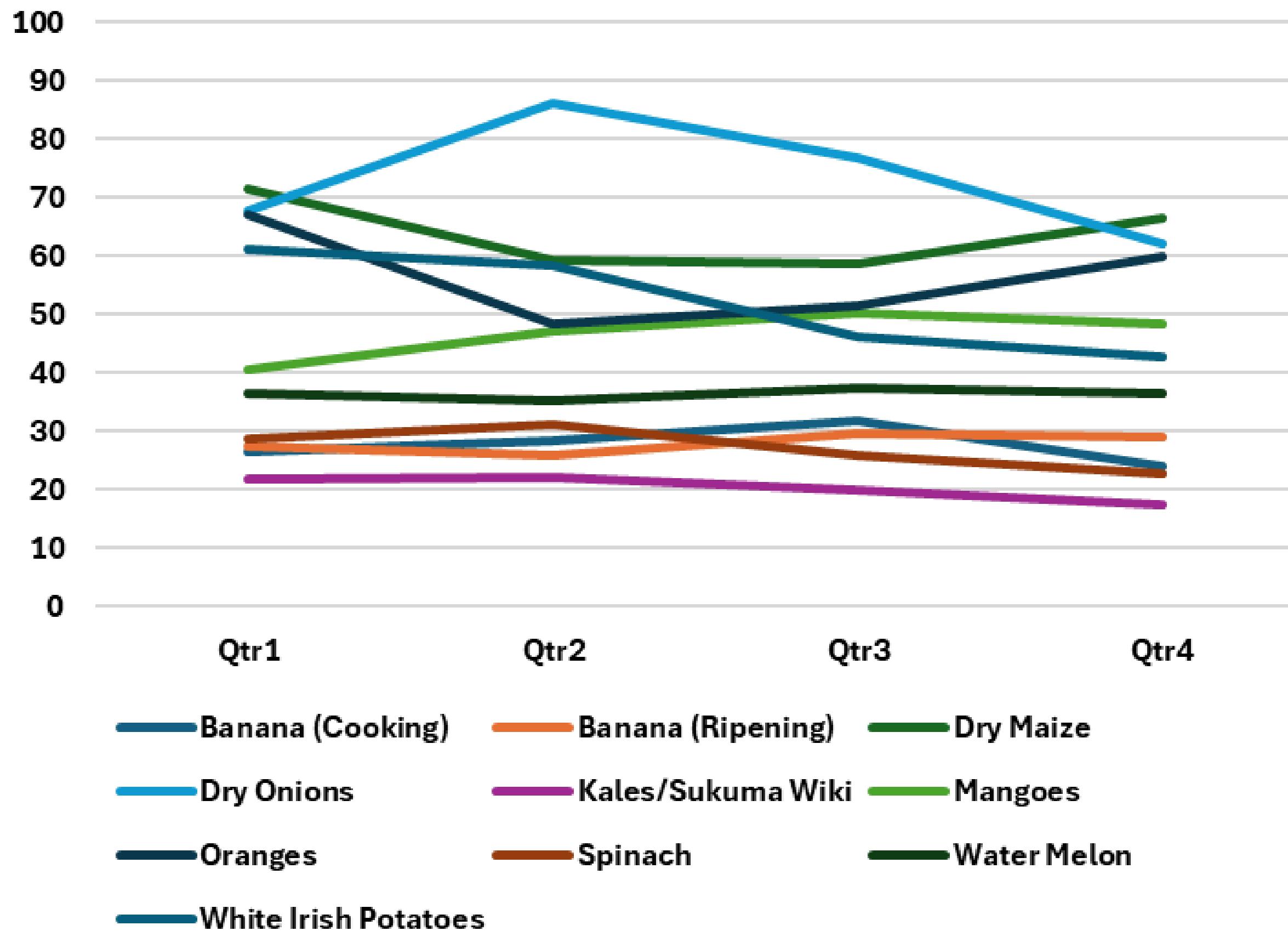
Tools:

- Python and Pandas for data cleaning and analysis.
- Visualization using Matplotlib and Seaborn.
- SQLite for database creation and storage.
- Power BI for the live dashboard.

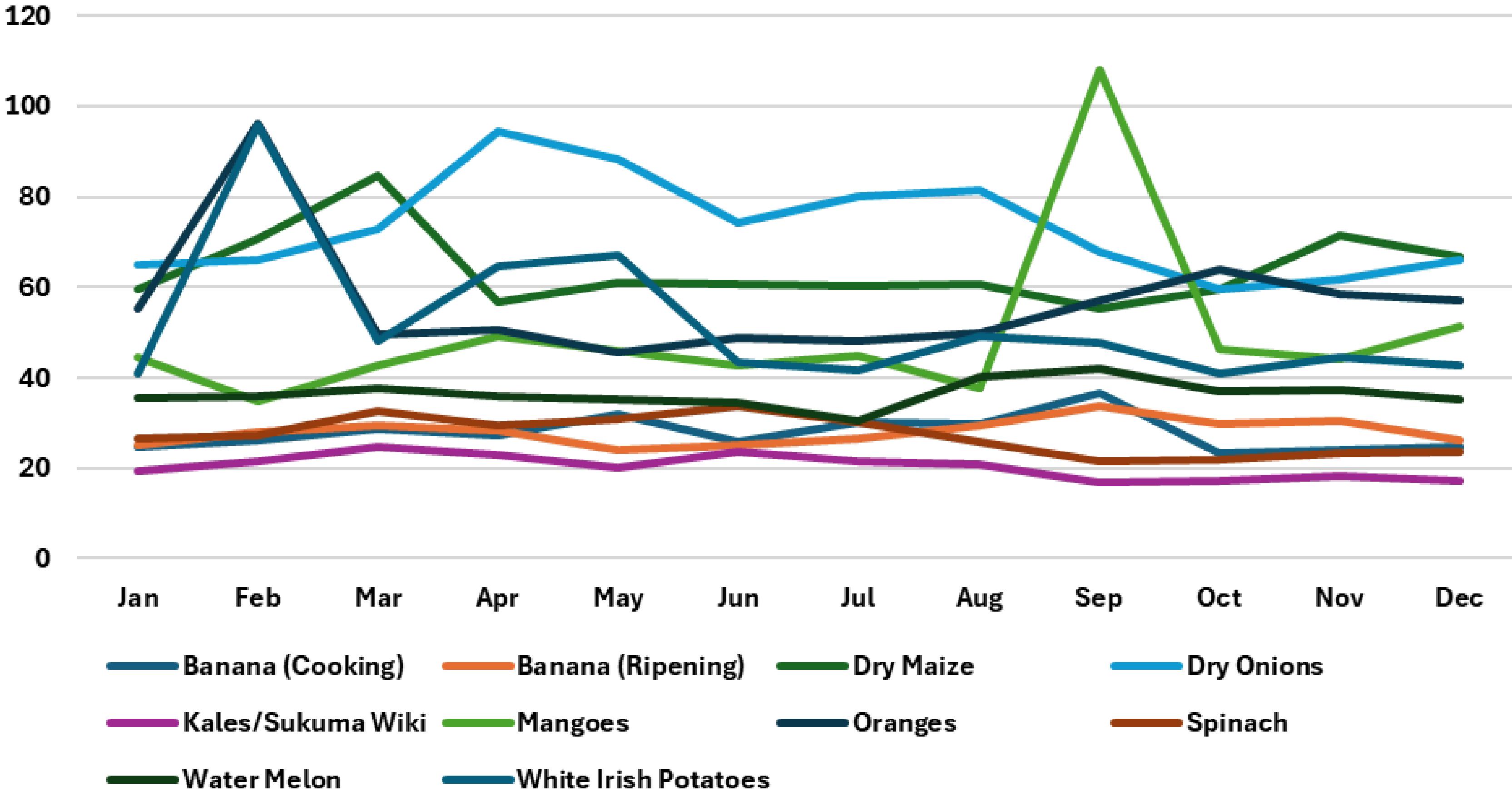


INSIGHTS AND FINDINGS

Quarterly Average Wholesale Prices



Monthly Average Wholesale Prices



BEST TIME FOR SALES

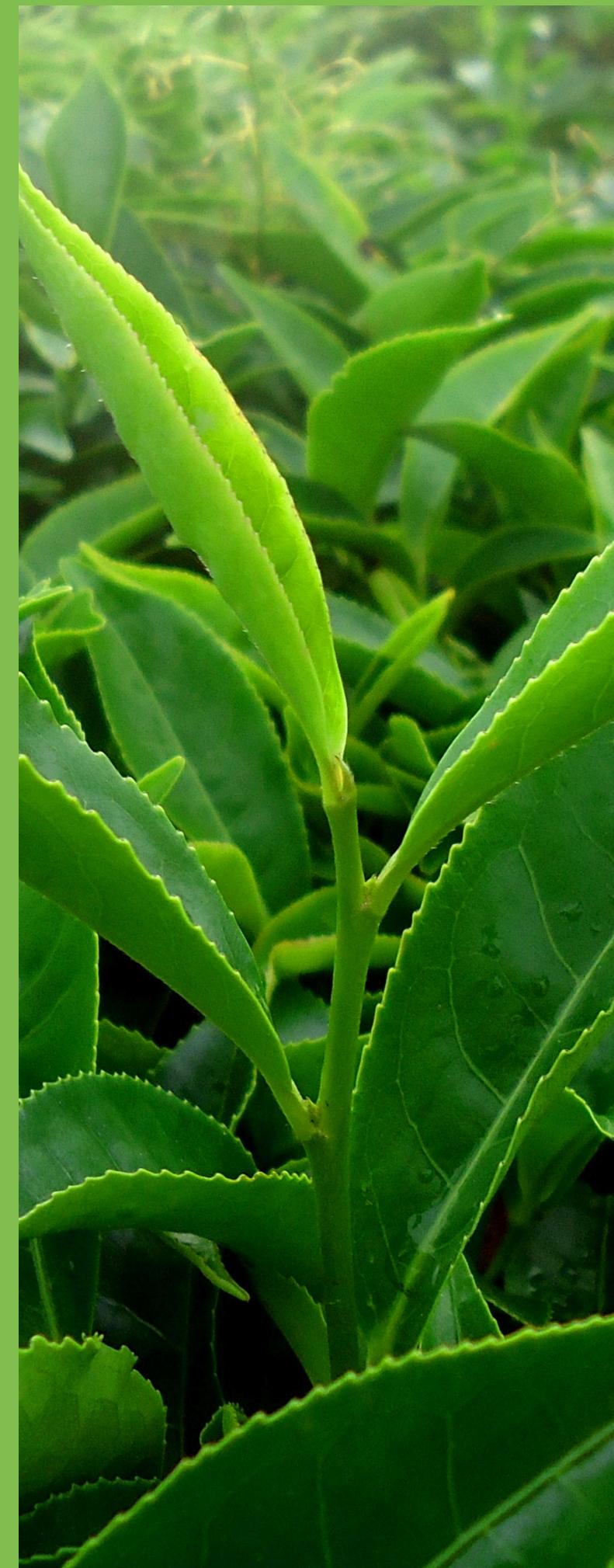
Product	Month	Price (Ksh)
Banana (Cooking)	September	36.7
Bnana (Ripening)	September	33.82
Dry maize	March	84.78
Dry onions	April	94.33
Kales/Sukuma wiki	March	24.8
Mangoes	September	108
Oranges	February	96.07
Spinach	June	33.75
Water melons	September	41.79
White irish potatoes	February	95.97

WORST TIME FOR SALES

Product	Month	Price (Ksh)
Banana (Cooking)	October	23.26
Bnana (Ripening)	May	23.99
Dry maize	September	55.29
Dry onions	October	59.56
Kales/Sukuma wiki	September	16.99
Mangoes	February	34.69
Oranges	May	45.41
Spinach	September	21.34
Water melons	July	30.3
White irish potatoes	January	40.85

TOP 3 PRICED MARKETS PER COUNTY

County	Market	Commodity	Price (Ksh)
Kirinyaga	Ngurubani Market	Dry Maize	81.21
	Makutano	Dry Onions	89.19
	Kutus	Banana (Ripening)	23.8
	Kutus	Kales/Sukuma Wiki	22.71
Meru	Gakoromone	Banana (Ripening)	80
	Gakoromone	Mangoes	95.38
	Gakoromone	Oranges	187.23
	Gakoromone	Spinach	80.54
	Kangeta	Dry Onions	91.58
	Kangeta	Kales/Sukuma Wiki	30.61
	Nkubu	White Irish Potatoes	74.48
Nairobi	Gikomba	White Irish Potatoes	106.75
	Gikomba	Dry Onions	94.03
	Gikomba	Watermelon	80
	Wakulima	Kales/Sukuma Wiki	32.5
	Wakulima	Spinach	33.33
	Kawangware	Dry Maize	59.67
Nakuru	Molo	Dry Maize	280.91
	Molo	Dry Onions	190.14
	Bahati	Watermelon	176.73
	Wakulima	Banana (Ripening)	80
	Wakulima	Mangoes	80.4
Nyandarua	Mairo-inya	Banana (Cooking)	56.52
	Mairo-inya	Kales/Sukuma wiki	16.96
	Engineer	Oranges	66.88
	Engineer	Watermelon	53.22
	Soko Mpya	Dry Onions	66.44
	Soko Mpya	Mangoes	48.27



INSIGHTS

- ✓ **Seasonal Harvests:** Timing harvests to align with peak price periods significantly boosts profitability, as it ensures farmers maximize returns on their produce. By leveraging seasonal trends and live market updates, smallholder farmers can make informed decisions and strategically plan their sales for optimal outcomes.
- ✓ **Market Diversification:** Farmers in regions with lower prices can target high-demand urban markets to achieve better returns by selling their produce where prices are higher. For example, a farmer in Nyandarua County could transport their Kales/Sukuma Wiki to Nairobi Wakulima Market, where it commands significantly higher prices.
- ✓ **Storage Investments:** Commodities like onions and potatoes have longer shelf lives, enabling farmers to store them and sell during high-price months for increased profits. For instance, a farmer in Nakuru can hold their dry onions and sell them later at peak prices in urban markets like Gikomba.

RECOMMENDATIONS



Optimize Selling Periods:

- Plan harvests for Q4 when demand spikes for most commodities.
- Use off-peak seasons for storage and preservation.



Improve Market Access:

- Leverage digital platforms to connect farmers with urban markets.
- Facilitate transportation to top-priced counties.



Adopt Technology:

- Utilize the live dashboard for real-time price updates.
- Invest in mobile apps for market alerts and recommendations.



Enhance Farmer Education:

- Conduct training sessions on market trends and storage techniques.
- Promote knowledge sharing among farmers within and across counties.