Central Bank of Kenya

Agriculture Sector Survey

January 2024

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1. BACKGROUND

The agriculture sector plays a vital role in Kenya's economy by providing employment directly and indirectly through forward and backward linkages with the other sectors of the economy. The sector contributes to foreign exchange earnings through exports of agricultural products. The sector remains the backbone of the Kenyan economy due to the significant role it plays in sustaining rural livelihoods, poverty reduction, and supporting national food security. Given the relatively larger share of food items in the Consumer Price Index (CPI) basket, developments in the agriculture sector have significant implications for domestic inflation dynamics. According to the Kenya National Bureau of Statistics (KNBS) 2015/16 Kenya Integrated Household Budget Survey (KIHBS), household spending on food and non-alcoholic beverages accounted for 32.9 percent of total consumption expenditures. As such, developments in agriculture have implications for food inflation and ultimately on headline inflation.

Even though the share of agriculture in Kenya's GDP has declined over the years, it still accounts for a notable share of about 21.3 percent of the nominal GDP, based on the average for the period 2018-2022. The sector recorded a real growth of 4.6 percent in 2020 and played a critical role in sustaining activity in the Kenyan economy in the wake of COVID-19 shock that adversely affected the non-agriculture sector. However, it contracted by 0.4 percent and 1.6 percent, respectively, in 2021 and 2022 due to prolonged drought in both years.

Following the improved weather conditions in 2023, the agriculture sector recovered considerably. It expanded by 7.0 percent in the first three quarters of 2023, from a contraction of 2.0 percent in a similar period of 2022. Estimates by the Ministry of Agriculture show agricultural production increased in 2023 relative to 2022. The impressive performance is primarily due to above average rainfall received across the country during the long and short seasons. The heavy rain that spilled into January 2024 has continued to boost production.

In view of the direct implications of developments in prices of key agricultural commodities on food inflation, and considering the impact of agricultural output on economic activity, availability of high frequency data is critical in signalling the direction of prices of key food items in the CPI basket and indicators of price expectations, as well as the factors that affect production, marketing of farm produce and overall performance. Consequently, the Central Bank of Kenya (CBK) introduced the Agriculture Sector Survey in July 2022 to aid monetary policy decisions. The survey seeks to generate high frequency indicative price and output data on staple food commodities in select markets with the aim of informing inflation projections and providing additional information to support monetary policy decision making process.

The focus areas of the survey included:

i. Prices of key agricultural food commodities and expectations.
ii. Assessment of output and acreage of select food items, and expectations.
iii. Access and use of farm inputs for agricultural production.
iv. Factors affecting agricultural production, marketing/sale of farm produce.
v. Indicative information on access to credit facilities and howfarmers use the credit; and
v. Suggestions on how to improve agricultural production.

The current survey was conducted during the period January 15 – 19, 2024. Results revealed that, in general, there was an increase in the prices of key food items, particularly cereals and processed foods in January 2024, relative to December 2023. However, the survey showed a decline in the retail prices of tomatoes and onions, whose prices had risen sharply in previous months. The key factors found to be exerting upward pressure on inflation include transport costs and high input costs which affect market supply. However, favourable weather conditions continue to support increased output and moderation of prices. Most of he respondents interviewed, expected a decline in prices in the coming months.

2. METHODOLOGICAL FRAMEWORK

The January 2024 survey assessed changes in both wholesale and retail prices of select food items, expectations about changes in prices and output, and factors that affect agricultural production. The survey drew respondents from select wholesale and retail markets, and farms in major towns. These included Nairobi, Nairobi Metropolitan area, Naivasha, Gilgil, Nakuru, Narok, Bomet, Nyandarua, Nyahururu, Kisumu, Mombasa, Kisii, Eldoret, Kitale, Meru, Mwea, Machakos, Isebania, Nyeri, Molo, Kericho, Isiolo, Oloitoktok, Namanga and Makueni.

Both quantitative and qualitative approaches were employed to analyse the cross-sectional data while findings were presented using tables and/or charts. The Balance of Opinion (BOO) approach, which is generally defined as the difference between the proportion of respondents having expressed a positive opinion and the proportion of respondents having expressed a negative opinion divided by the total number of respondents, was applied to convert qualitative responses into quantifiable values. The coverage and scope of the survey has continued to expand with time. The data was collected using face to face interviews with retailers, wholesalers and farmers in select markets and farms. Out of the 241 respondents sampled, farms accounted for 44 percent of the responses, while retailers and wholesalers accounted for 35 percent and 21 percent, respectively **(Figure 1).**

Figure 1(a): Response rate (Percent)

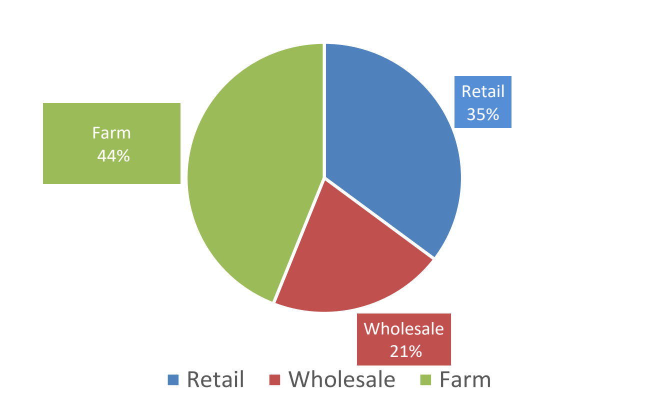
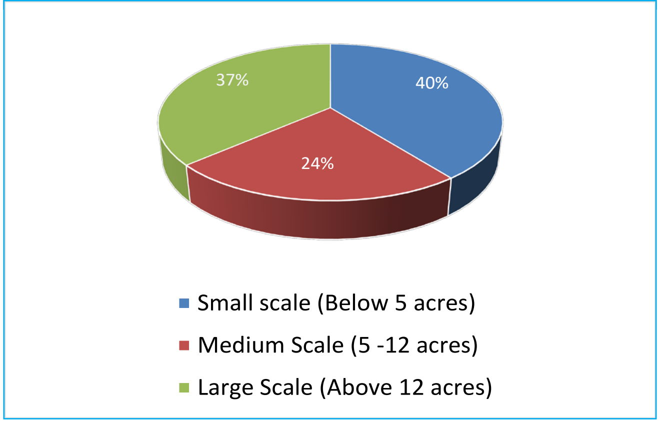


Figure 1(b): Farm categorization (Percent)



3. MAIN HIGHLIGHTS FROM THE SURVEY

This section highlights the key findings from the January 2024 Survey. Broadly, the following are the key highlights:

i.) Retail prices of most key food items remained sticky or were slightly higher in January 2024 relative to December 2023, except for some few key vegetable items such tomatoes and onions that experienced a price decline.

ii.) The increase in prices of non-vegetables in January 2024 was driven by select items whose prices were relatively higher reflecting seasonal factors, international developments, and elevated energy costs.

iii.) Expectations about the general level of prices for February 2024 were tilted towards a decline.

iv.) Expectations about both acreage and output of select crops in the next harvest remained positive. This is partly on account of continued favourable rainfall in January 2024, expected favourable rain conditions during the long rain season, and availability of quality and affordable fertilizer.

v.) Weather conditions, transport and input costs continue to impact both output and price of key food items.

vi.) The proportion of respondents who reported to have accessed the subsidized fertilizer was slightly lower in January 2024 compared to that observed in November 2023 survey, with the decline attributed mainly to seasonal factors.

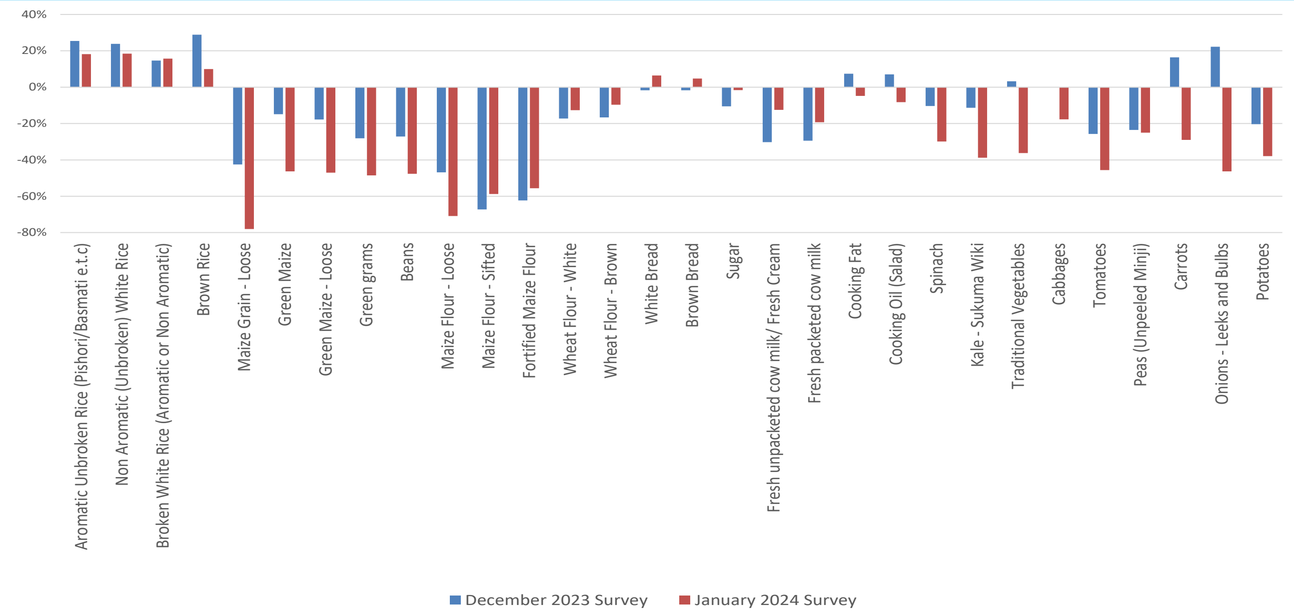
vii.) Banks, Savings and Credit Cooperative Societies (SACCOs), friends/family and the Hustler Fund remained the main sources of credit for farmers. The funds were used mainly to finance farm implements, inputs, and labour.

viii.) Optimism about economic performance in the next three months improved significantly in the January 2024 survey, relative to the November 2023 survey.

3.1 Prices of Key Agricultural Commodities

The survey sought to establish indicative monthly changes in prices of key agricultural commodities in January 2024. Compared to the prices observed in the December 2023 survey, analysis shows mixed outcomes though, on average, the prices were slightly higher in January 2024. However, notable price decline was observed with regard to tomatoes and onions compared to December 2023[1] **(Figure 2).**

Figure 2: Month on month changes in retail prices of select food items (Percent)



Price of loose maize grain, green grams, and beans increased marginally in January 2024 relative to December 2023, but were much lower compared to their respective levels in 2022 and early 2023. However, the price of various rice varieties increased on average in January 2024. This upward price pressure reflects high import prices and reduced domestic production due to flooding of rice fields. The price of fresh un-packeted cow milk remained stable in January 2024 relative to December 2023, but that of packeted milk increased marginally. Milk prices have generally been stable in 2023, supported by favourable rainfall which improved pasture, resulting in stable milk supplies. Government interventions to stabilize prices also played a key role. For instance, the gazette notice published on March 17, 2023, which allowed animal feed manufacturers to import 500,000 tonnes of duty-free yellow maize before August 6, 2023 helped to stabilize prices of animal feeds.

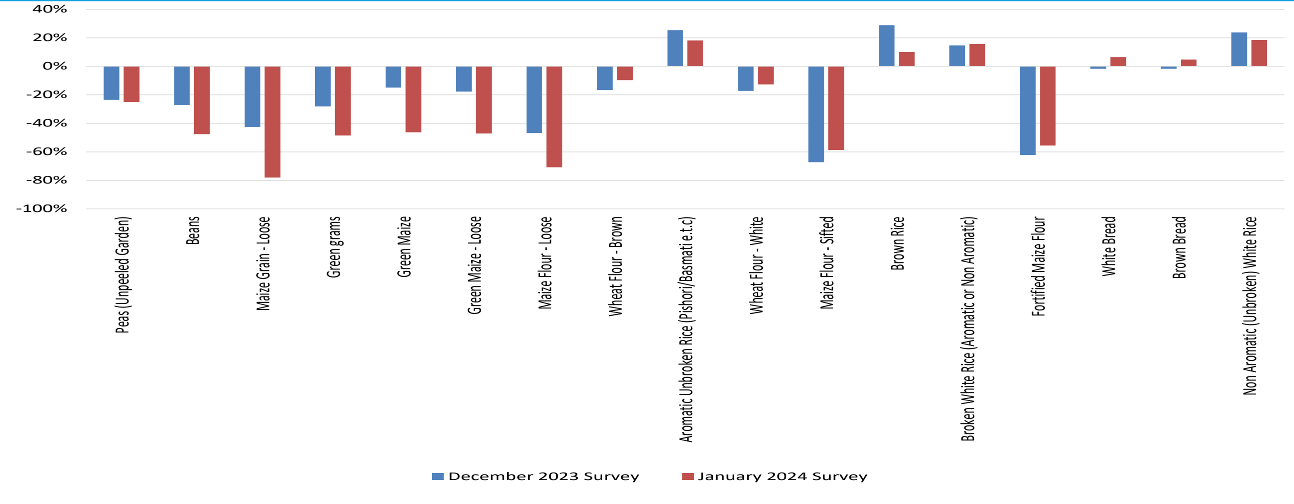
The price of sugar remained stable in January 2024, compared to the prices that prevailed in November and December 2023. Sugar prices have been moderating since October 2023 after local sugar companies resumed operations after temporary closure to undergo annual maintenance. It was noted that the favourable rainfall has substantially improved came production and this is expected to moderate prices in coming months.

3.2 Expectations of Prices of Key Food Items

Analysis using Balance of Opinion (BOO) approach points to an expected general decline in prices of most food items in February 2024. This mainly reflects the continued impact of favourable weather conditions in January 2024. In the case of cereals and grains, some respondents noted that the expected supplies from the lower Eastern region, where harvesting of beans, maize and green grams is ongoing, will lead to a decline in the prices of these commodities. The expectation that rice prices will increase was informed by concerns about increasing import costs, driven by the value of the Kenya shilling vis-à-vis foreign currencies and deteriorating supply chains following disruption of shipments through the Red Sea and the Suez Canal. However, the expectations of increased rice prices were less pronounced in the January 2024 survey compared to the December 2023 survey **(Figure 3).**

[1] Retail and wholesale indicative prices of select food items are collected monthly while indicative output indicators are collected bi-monthly.

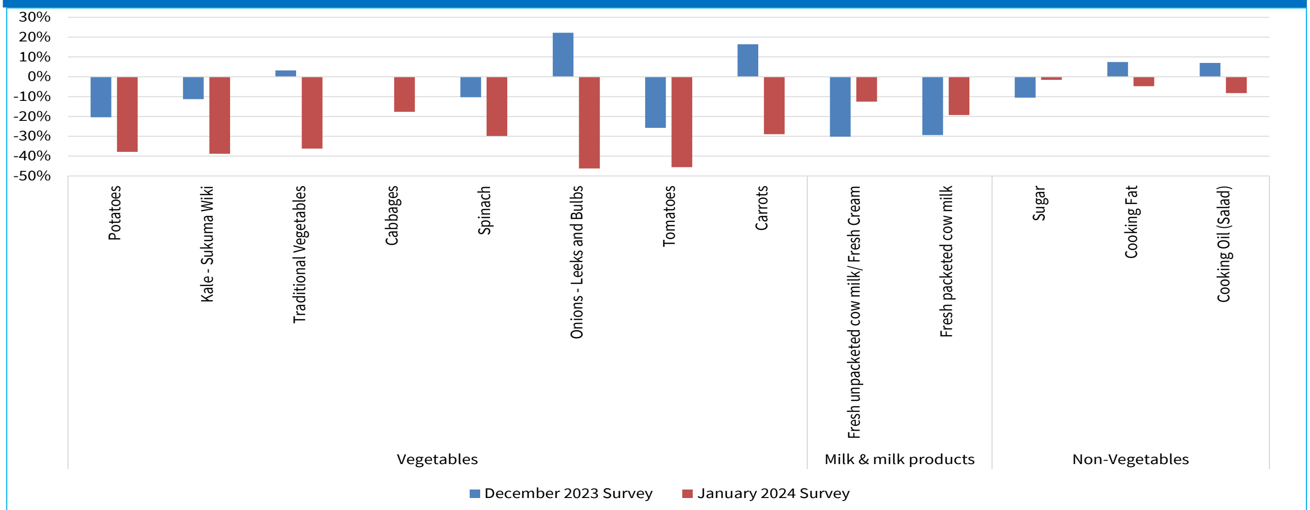
Figure 3: Retail price expectations for cereals and related products (Percent)



Overall expectations about retail prices were, in general, tilted towards a further decline in the January 2024 survey compared to the December 2023 survey **(Figure 4).** The price of processed and unprocessed milk is expected to decline further, supported by increased pasture resulting from favourable rainfall. Price expectations for vegetable items including kales/sukuma wiki, cabbages, spinach, and traditional vegetables point to a less pronounced decline in February 2024, compared to what respondents had indicated about price expectations one-month ahead, during the December 2023 survey. The respondents expected a lesser price decline one-month ahead, which largely reflectss seasonal factors. However, price expectations of onions, carrots, tomatoes and potatoes point to a decline, consistent with subsiding rainfall as these crops do well in a limited rainfall environment.

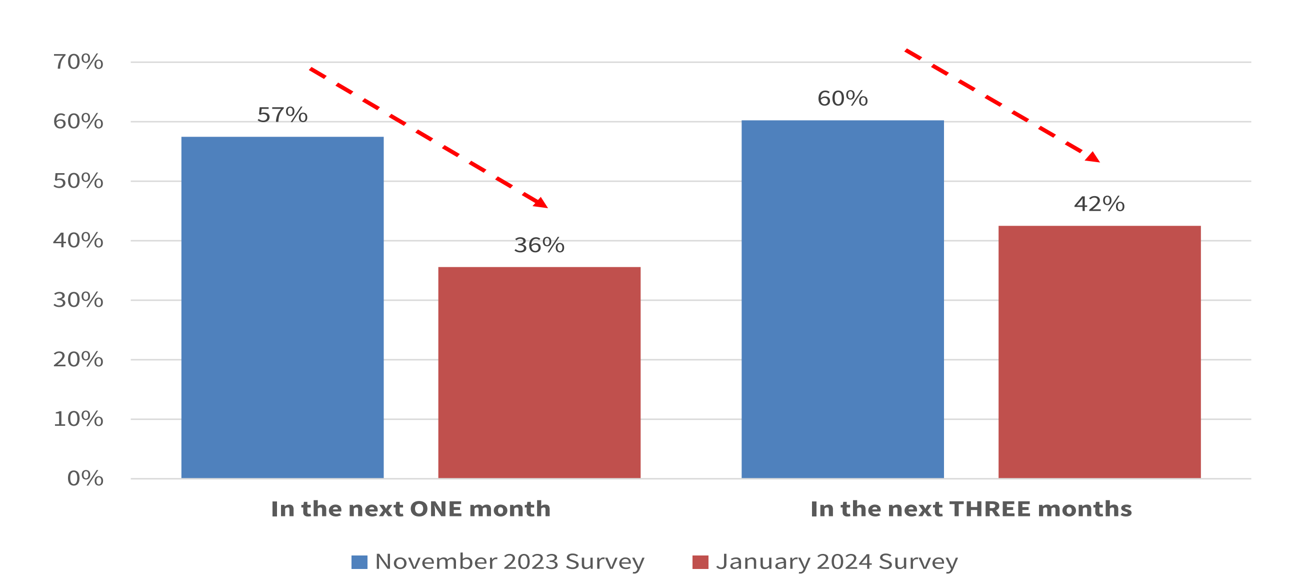
Harvesting of onions in prime growing areas of Kajiado, namely, Kimana, Selengei, Namanga, and Oloitoktok is expected to start towards the end of February 2024 and to continue until March 2024. Domestic prices of onions are also largely dictated by the production and pricing of onions from Tanzania. Expectations about prices of edible oils point to a decline in February 2024. This was informed by the observed easing of international prices following recovery of global palm oil production. With regard to sugar prices, the expectation of price decline was informed by the re-opening of local sugar factories and the moderation in global sugar prices.

Figure 4: Retail price expectations for vegetables, non-vegetables and animal products in January 2024 (Percent)



The survey also sought respondents' views on expectations about general price changes of the consumer goods regularly consumed by a typical household. In general, expectations point to general easing of prices compared to the November and December 2023 surveys. In the January 2024 survey, the share of respondents who expected inflation to increase in the next one month declined substantially to 36.0 percent compared to 57 percent in the November 2023 survey. Similarly, the share of respondents who expected the general consumer prices to increase in the next three months declined to 42 percent, from 60 percent over the same period **(Figure 5).** The short rains outcome that has positively impacted production and supply of key food items, played a key role in dampening expectations for higher inflation during the January 2024 survey. Moreover, the reduction in fuel prices by the Energy and Petroleum Regulatory Authority (EPRA) on December 14, 2023, and further reductions on January 14, 2024 also moderated expectations for further increases in transport costs. However, concerns about import costs and global supply chain interruptions remain.

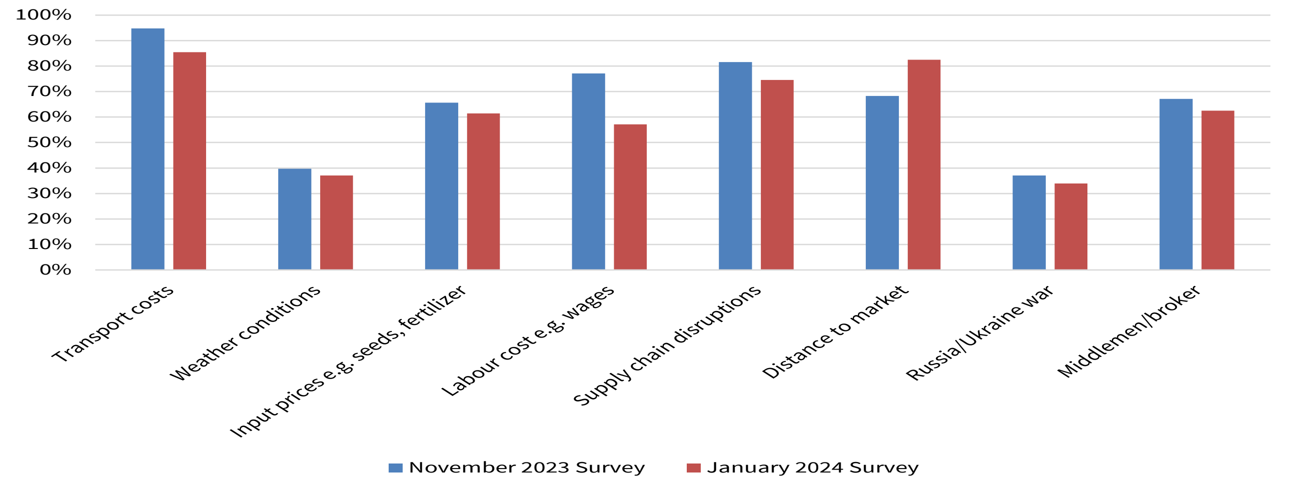
Figure 5: Consumer price expectations (Percent)



3.3 Factors affecting Retail and Wholesale Prices

The survey also sought to establish the factors affecting wholesale and retail prices of select food items **(Figure 6).** Respondents identified transport costs, input costs and weather conditions as key factors impacting both retail and wholesale prices **(Figure 19 – Annex).** However, the extent to which transport costs were reported to be driving prices up was less pronounced in the January 2024 survey relative to the November 2023 survey.

Figure 6: Factors affecting retail prices



3.4 Output performance and expectations

This section describes the outcomes of the agriculture survey in terms of changes in actual output and acreage, and farmers' expectations regarding the same. This information helps in informing the direction of agricultural activity in view of the direct and indirect impact of the sector on overall economic performance, and potential pressures on overall inflation mainly through food inflation.

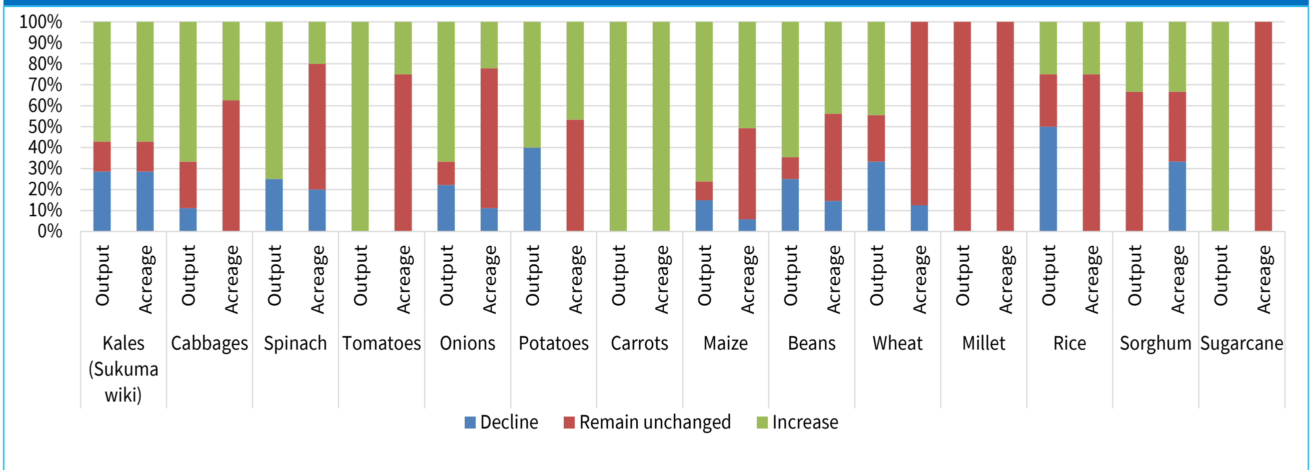
3.4.1 Output performance across food crops

Most crops recorded notable improvement in expectations for both output and acreage in the January 2024 survey, relative to the November 2023 survey. This was largely driven by the above average rainfall that was experienced between October 2023 and January 2024, and continued availability of quality and affordable inputs. There were, however, a few crops for which output was reported to have declined, notably beans, rice, and cabbages. These crops are highly sensitive to excess rainfall.

3.4.2 Market supply expectations

With regard to farmers' expectations about likely changes in output and acreage in the next harvest, on average, most farmers expected the acreage under crop production to either increase or remain unchanged. Similarly, majority of sampled farmers expected the supply of most food items to increase or remain the same on account of favourable weather conditions **(Figure 7).**

Figure 7: Output and acreage expectations



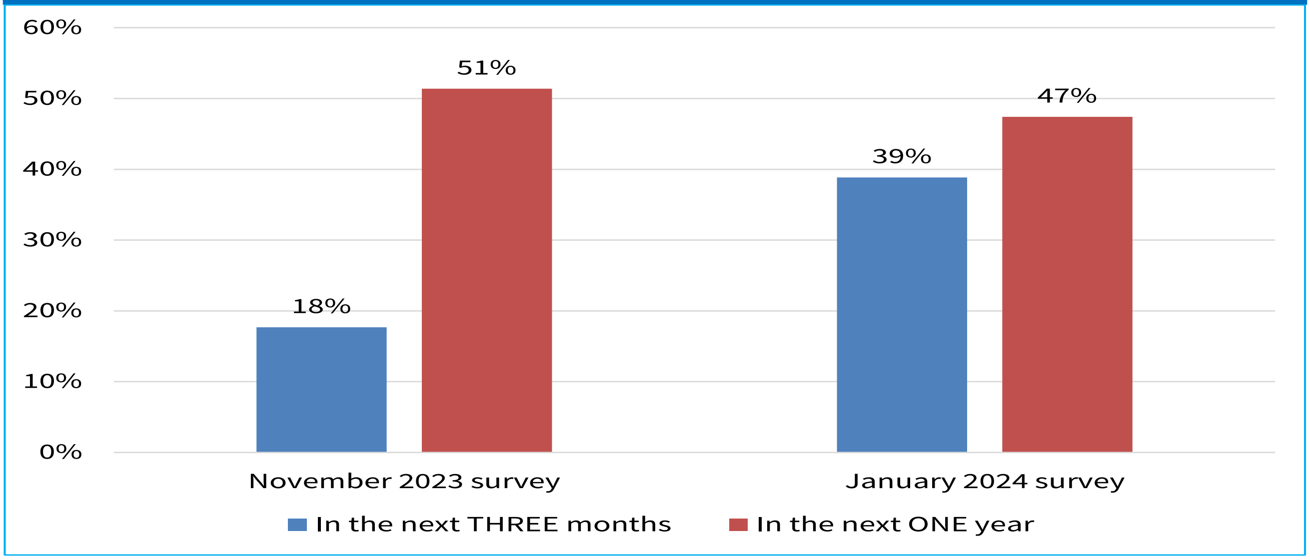
Farmers indicated that crop acreage was heavily influenced by several factors such as the expected weather conditions, economic outlook, and the expected rate of return from the specific crop. Several farmers indicated that proper timing in issuance of subsidized fertilizer and the quality of fertilizer accessed were important factors that support increased acreage.

3.5 Expectations about overall economic performance

Respondents were asked to express their views about how they expect the overall economy to perform in the next one quarter and the next one year. A notable increase in optimism was recorded in the January 2024 survey. Respondents who expected economic performance to improve in the next three months increased to 39 percent from 18 percent in the November 2023 survey. This improvement in optimism reflects the positive impact of favourable weather conditions during the October-December 2023 short rain season, which extended to January 2024. This resulted in impressive agricultural performance, which is expected to boost overall economic performance directly and indirectly though forward and backward linkages with other sectors of the economy.

There was, however, a slight decline in the share of respondents who expressed increased optimism about economic performance in the next one year. On balance, the share of respondents expecting the economy to register improved growth in the next one year declined slightly from 51 percent in the November 2023 survey to 47 percent in the January 2024 survey. This reflects increased uncertainty over the medium term. For instance, respondents were not certain whether the March-May 2024 long rain season would be as favourable as the October-December 2023 short rain season. They were also concerned about the potential impact of global geopolitical tensions on the Kenyan economy, particularly the shipping disruptions in the Red Sea and Suez Canal which may undermine supply chains and contribute to further increases in global oil prices. Some farmers were also concerned about the impact the continued depriciation of the Kenya shilling against foreign currencies would have on overall economic perfomance.

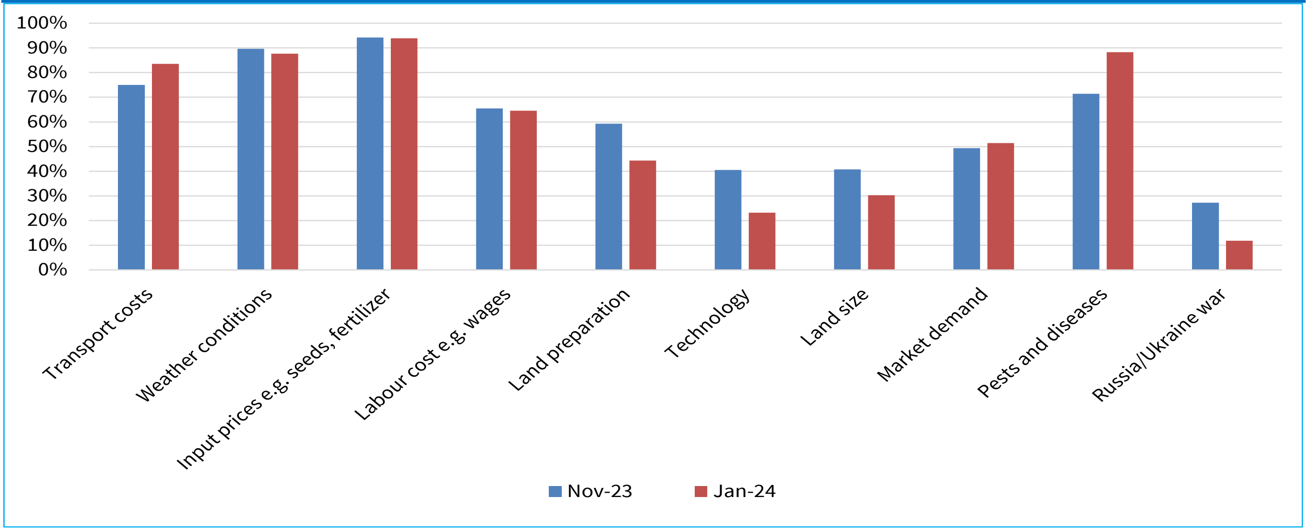
Figure 8: Optimsm about economic performance (Percent)



3.6 Factors affecting agricultural production

To get an understanding of constraints to the performance of the agriculture sector, the January 2024 survey asked respondents to indicate the most critical factors that affect production. This question was meant to gauge the relative role of factors such as weather conditions, the cost of land preparation, technology used in production, expenses incurred to control pests and diseases, among others. Analysis of responses shows dominance of four factors, namely, input costs, weather conditions, pests and diseases, and transport costs **(Figure 9).** The impact of the Russia-Ukraine war has waned over time. Labour costs are also important, however the demand for labour is seasonal with more workers needed during land preparation, spraying, weeding, and harvesting.

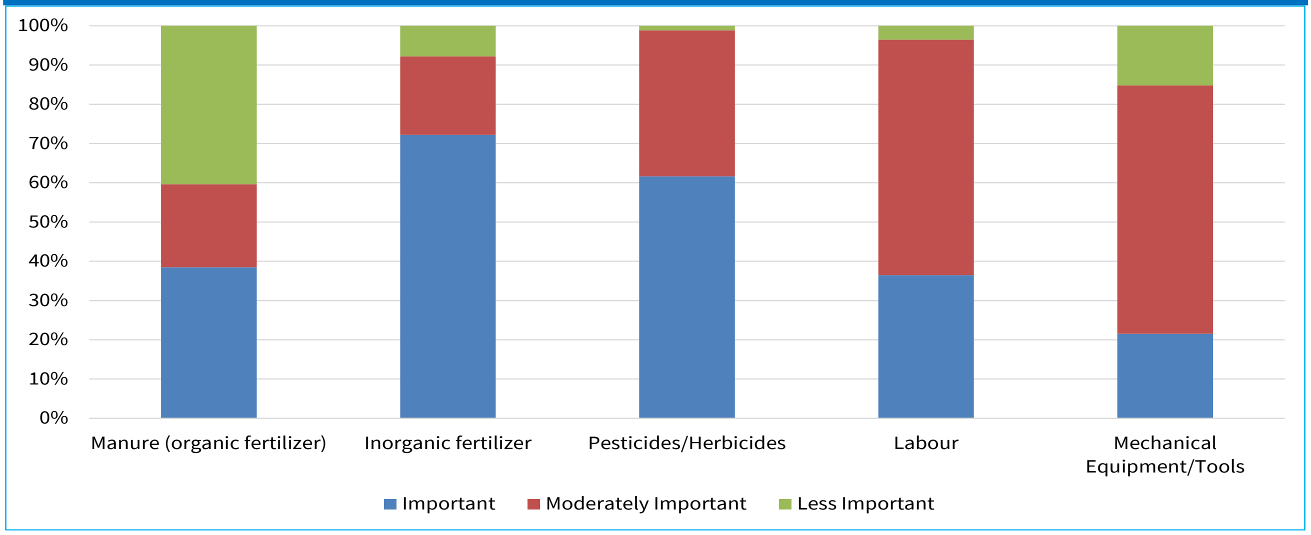
Figure 9: Factors affecting agricultural production



3.7 Use of farm inputs in agricultural production

Inorganic fertilizer and pesticides/herbicides are the two most used farm inputs. Most farmers indicated that use of fertilizer was necessary to boost production, both during planting and as the crop matured. Use of pesticides and herbicides was also deemed important, since they ensure that crops are protected from pests and diseases, thus preventing output loss. Other inputs that farmers reported as moderately important were labour and mechanical equipment, particularly during land preparation and harvesting **(Figure 10).**

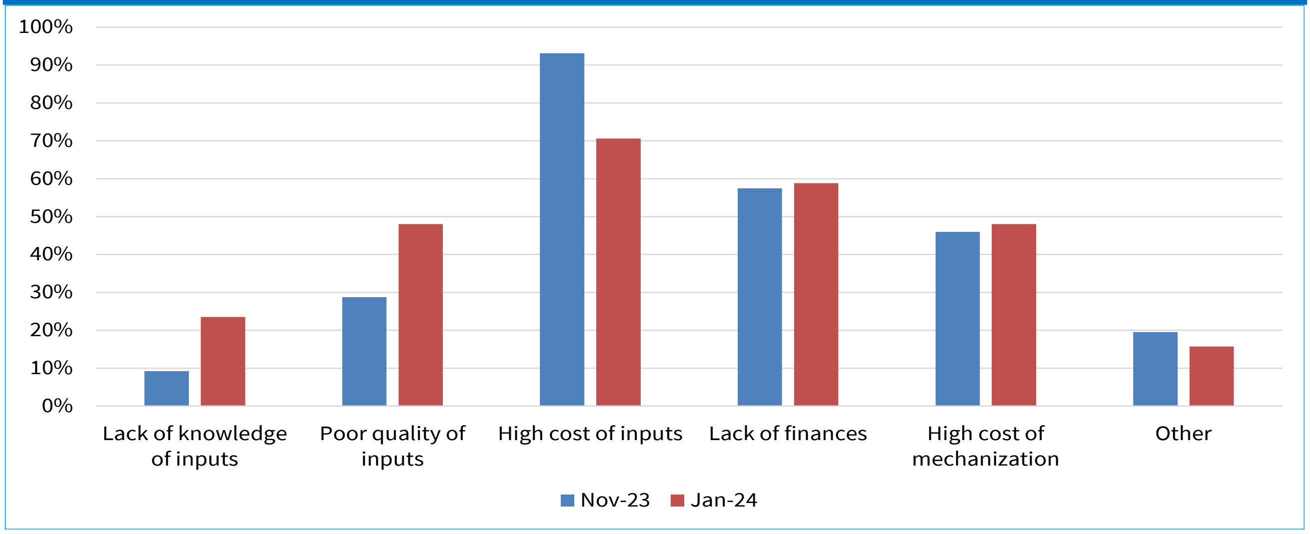
Figure 10: Significance of farm inputs in agricultural production



3.7.1 Challenges associated with access to farm inputs

Farmers face several barriers in accessing farm inputs, but the three most cited barriers were the high cost of farm inputs – especially fertilizer, seeds, and pesticides; lack of finance; and the high cost of mechanization **(Figure 11).** These three factors have remained dominant as key barriers to access of inputs in the previous surveys. To address this challenge, the Government has initiated a programme to issue subsidised fertilizer as well as subsidized tractors for hire at the county level. The Government has also initiated the Hustler Fund to help credit-constrained households access credit on favourable terms, which has enabled farmers access funds to purchase inputs. The Hustler Fund enabled 10 percent of the sampled farmers to access credit according to results of the November 2023 survey. However, the percentage declined in January 2024 which is mainly reflective of seasonal factors, consistent with the country's crop calendar.

Figure 11: Challenges limiting access to farm inputs (Percent)

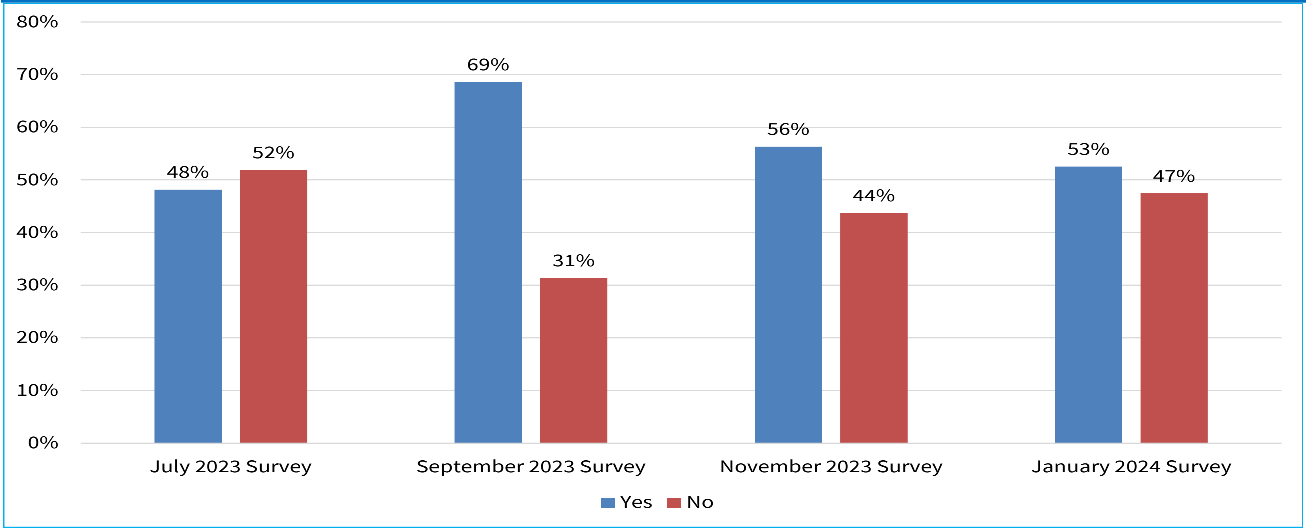


3.7.2 Access to government subsidized fertilizer

The proportion of respondents who reported to have accessed government subsidized fertilizer was lower in the January 2024 survey, reflecting seasonal patterns in line with the crop calendar for the country, as there are minimal farming activities in January **(Figure 12).**

In cases where farmers were unable to get the subsidized fertilizer, several reasons were given. This include lack of information on availability of the subsidized fertilizer, complications relating to the logistics of access, and demand outstripping supply. In other instances, priority was given to farmers who were members of a farming group.

Figure 12: Access to subsidized fertilizer

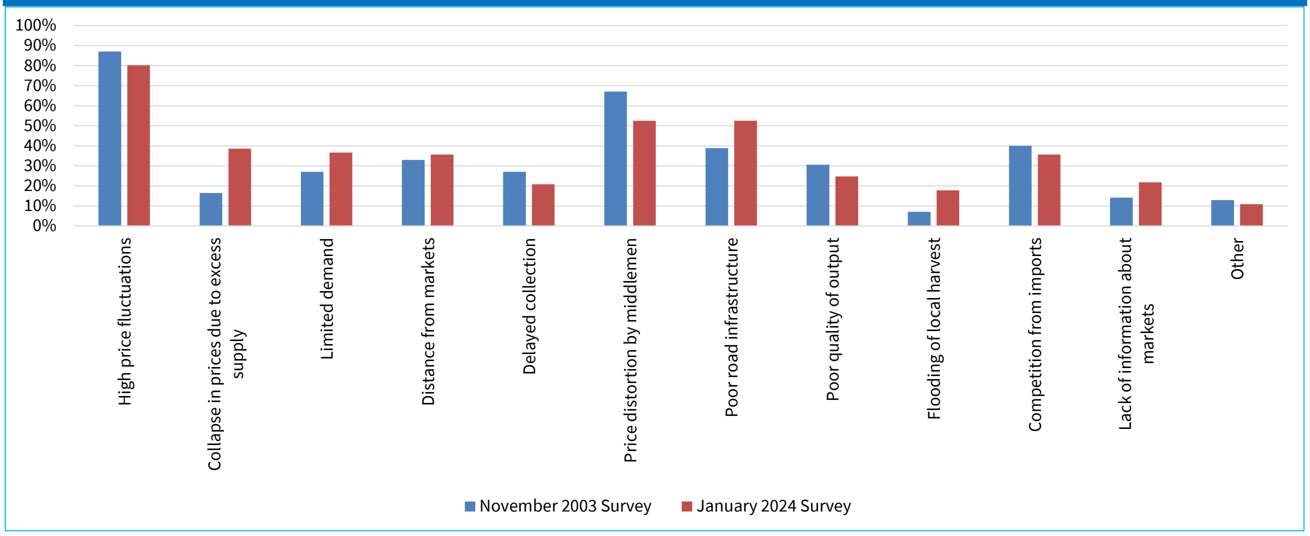


3.8 Factors affecting marketing/sale of farm produce

The agricultural survey also seeks informatio on factors critically affecting marketing/sale of farm produce. Farmers sampled in January 2024 cited price fluctuations from season to season, price distortion by middlemen, and competition from imports as the main challenges. These factors are similar to those cited in previous surveys. The price distortion by middlemen occurs from two factors. First, the middlemen exert significant influence on buyers who source for fresh produce directly from farmers. Second, the middlemen provide barriers to entry in the physical markets where farm produce is sold by preventing individual farmers from selling their produce directly to customers. Other challenges cited included the long distance from markets, poor road network, limited demand, and competition from imports **(Figure 13).**

These challenges affect contract farmers less, since the terms and conditions governing the engagement between the farmers and buyers are agreed upon in advance. Additionally, the contract farmers are spared the transport costs because the produce is collected directly from the farm by the buyers. However, this model has its own challenges. A sharp dip in prices due to post-harvest flooding of the market can orchestrate huge loses to the farmer because they bear the highest risk. This affects highly weather sensitive crops such as cabbages, potatoes, and tomatoes.

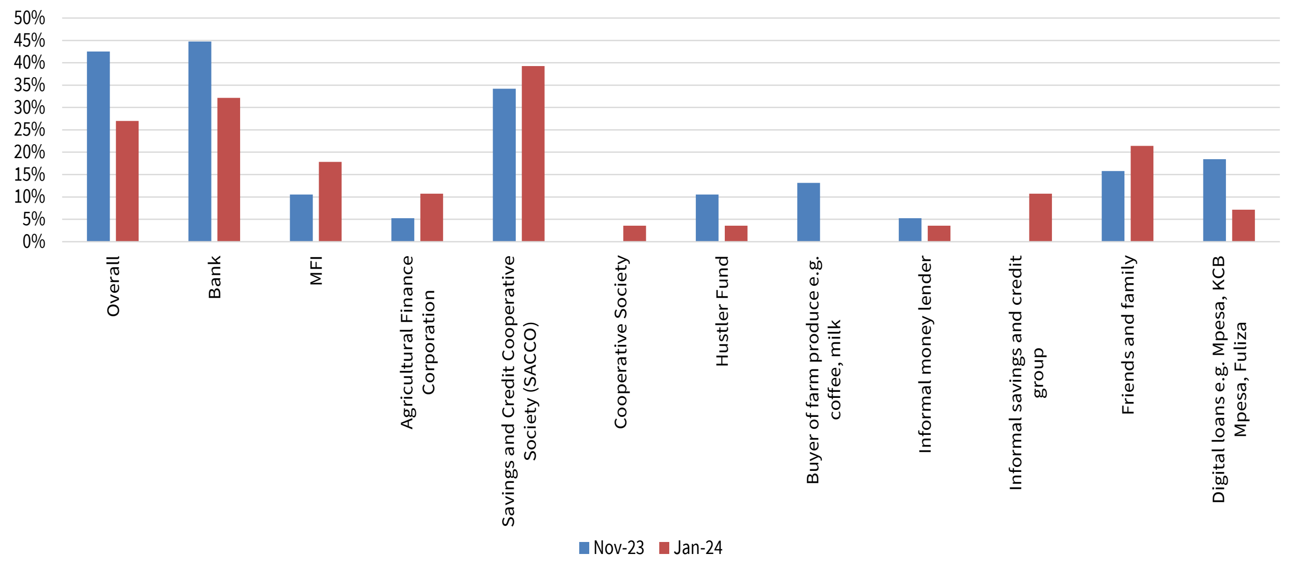
Figure 13: Factors affecting marketing/sale of farm produce



3.9 Access to credit facilities in agriculture

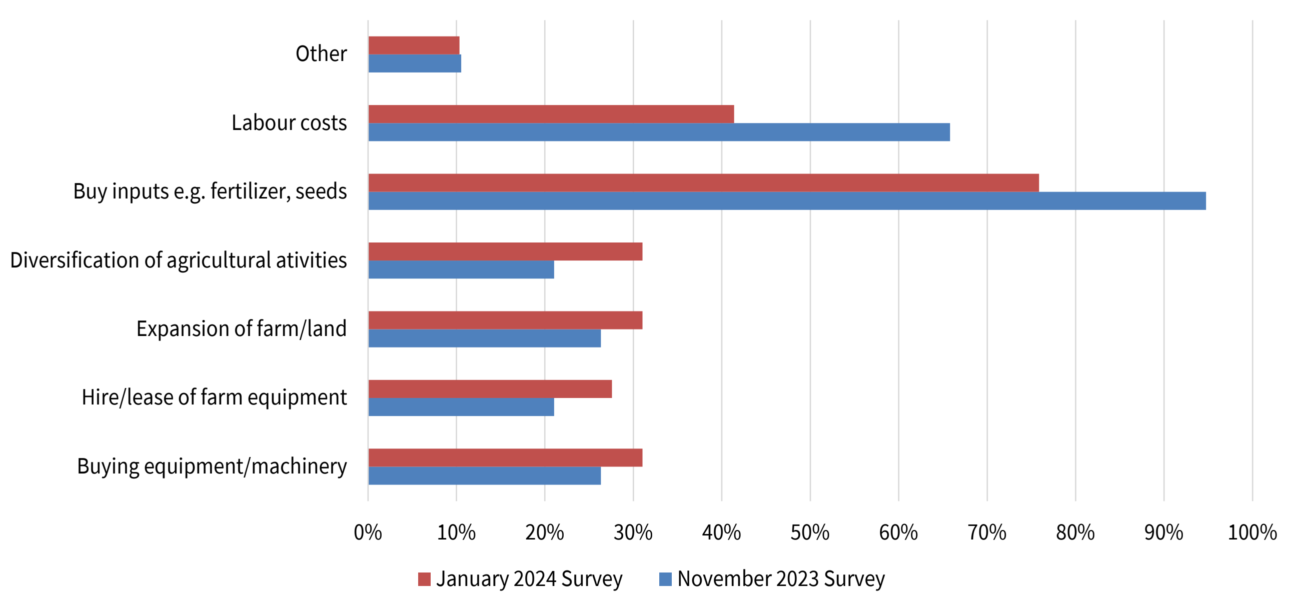
The proportion of respondents who reported to have accessed credit through loans declined in January 2024 relative to November 2023. This possibly reflects tigher liquidity conditions following the increase in domestic interest rates. The decline also reflects seasonal factors. The main sources of finance for farmers are banks, SACCOs, and family and friends **(Figure 14).**

Figure 14: Proportion of respondents who borrowed to finance farming by source



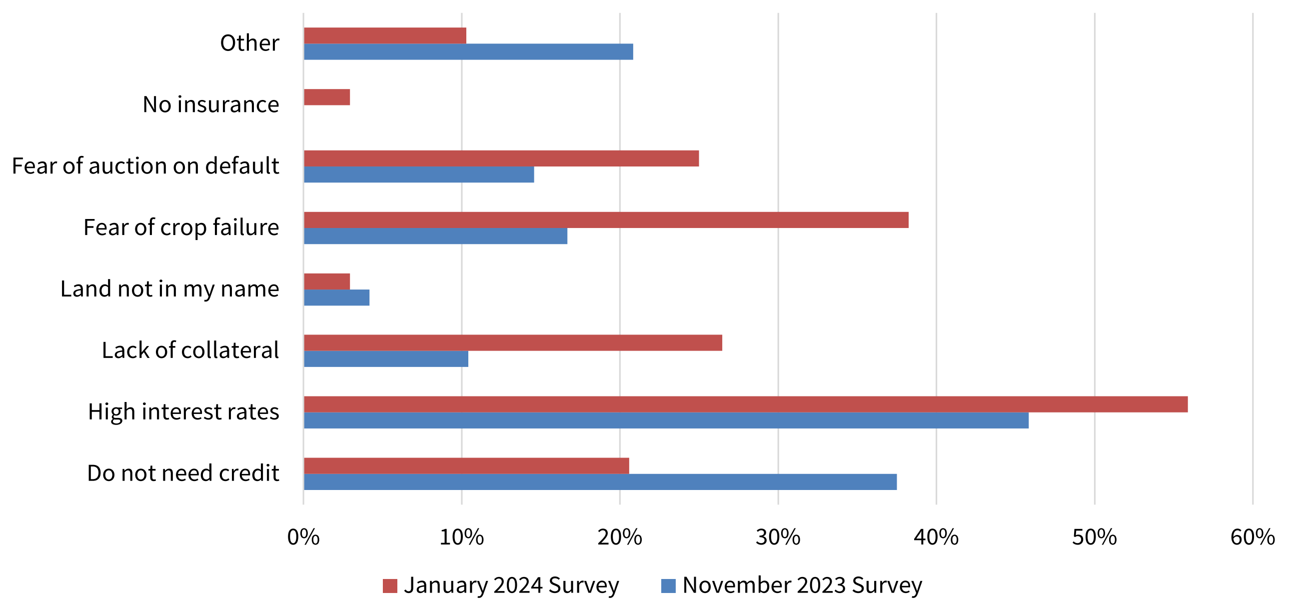
In terms of usage of funds, a large share of loans was allocated for buying inputs, followed by labour payments **(Figure 15).** Farmers reported experiencing higher costs of inputs during the October-December 2023 season, relative to the March-May 2023 season. Additionally, respondents also reported an increase in the cost of purchasing farm machinery and equipment during the January 2024 survey, reflecting the increasing costs of importation.

Figure 15: Purpose of agricultural loans



With respect to barriers in accessing finance, several factors were cited **(Figure 16)**, with high interest rates being the most prominent barrier. However, many farmers were averse to acquiring any form of credit due to fear of exposure to possible auction upon default. In addition, rain fed agriculture was said to be too unstable for one to seek credit, as output is often exposed to the vagaries of weather. Hence, farmers who relied on rainfall as their main source of water were reluctant to acquire loans due to fear of crop failure. This share was quite substantial at about 76 percent in the January 2024 survey **(Figure 18, Annex).** For farmers who use irrigation, their reluctance was premised on significant price fluctuations which make their incomes unstable even in periods of good harvest. Some farmers also cited lack of collateral as a deterrent to seeking loans especially in cases where farms were leased.

Figure 16: Barriers to credit among farmers



4. VIEWS ON HOW TO IMPROVE THE AGRICULTURE SECTOR

The survey sought views from farmers on how to improve agricultural production. These views differed significantly depending on the region as well as the crop grown. Most farmers from the lower Eastern region and Southern Rift Valley emphasized the need for water conservation through construction of dams, water pans and boreholes. Others suggested that measures be put in place to reduce or subsidize cost of inputs, and were encouraged by the government policy of subsiding fertilizer and providing seeds. Additionally, suggestions were made about subsidizing the cost of hiring farm equipment such as tractors, particularly during land preparation. This has been implemented in some counties, though challenges remain including the limited number of tractors availed to farmers, cases of frequent breakdowns of the tractors and long waiting lists. To address the problem of significant price fluctuations, farmers recommended implementation of price stabilization mechanisms, such as purchase of maize though the National Cereals and Produce Board (NCPB) at a price that covers the costs of production. Farmers also recommended implementation of punitive measures by the government for any individuals found to be selling low quality or fake inputs such as seeds.

5. CONCLUSION

The agriculture sector survey report summarizes findings from the January 2024 Survey conducted from January 15 - 19, 2024. The survey was conducted in order to obtain indicative information on recent trends and market expectations of prices and output of key agricultural commodities for the purpose of informing monetary policy. In particular, the survey focused on prices of key agricultural commodities in select retail and wholesale markets, actual agricultural output as well as acreage and output expectations from sampled farms, factors affecting agricultural production, marketing and sale of farm produce, access to credit facilities and views on how to improve agricultural production. The survey sample included 241 respondents from wholesale traders, retailers, and farmers in the select towns across the country (Nairobi and neighbouring counties including Kiambu, Kajiado and Machakos, Naivasha area, Nakuru, Narok, Bomet, Kisumu, Mombasa, Kisii, Eldoret, Kitale, Nyandarua, Nyahururu, Mwea, Machakos, Isebania, Meru, Nyeri, Isiolo, Oloitoktok, Namanga, Makueni and Molo). The key findings from the January 2024 survey were as follows:

- On average, retail prices of most food items generally increased in January 2024 relative to December 2023. However, there was a notable decline in prices of select key items such as onions and tomatoes.
- On balance, inflation expectations for February 2024 point to a decline.
- Expectations about output of key food items in the next harvest and acreage for cultivation remain positive.
- Weather conditions, transport costs, and input prices continue to have a significant impact output and prices of key food items.
- The proportion of farmers who had access to subsidized fertilizer was slightly lower in January 2024, largely driven by seasonal factors.
- Banks, friends/family, digital credit providers, and the Hustler Fund remain important sources of credit for farmers. The credit obtained is used to primarily purchase farm implements, inputs and facilitate labour costs. However, high interest rates remain a major deterrent to accessing credit.
- There was a notable improvement in optimism about economic performance in the January 2024 survey. The improvement in optimism was supported by the observed impressive performance of the agriculture sector, and two cycles of downward adjustment in fuel prices by EPRA on December 14, 2023, and January 14, 2024.

Based on the findings of this survey, the key recommendations mirror those contained in the November 2023 Report of the Agriculture Sector Survey:

i) Lower the cost of imputs.
ii) Address the high fuel prices which have a direct effect on both the cost of inputs and prices of agricultural commodities through high transport costs.
iii) Intensify the supply of rain harvesting and storage equipment as well as construction of dams, boreholes, and water pans.
iv) Deepen access to affordable credit facilities.

ANNEXES

Figure 17: Factors affecting wholesale prices

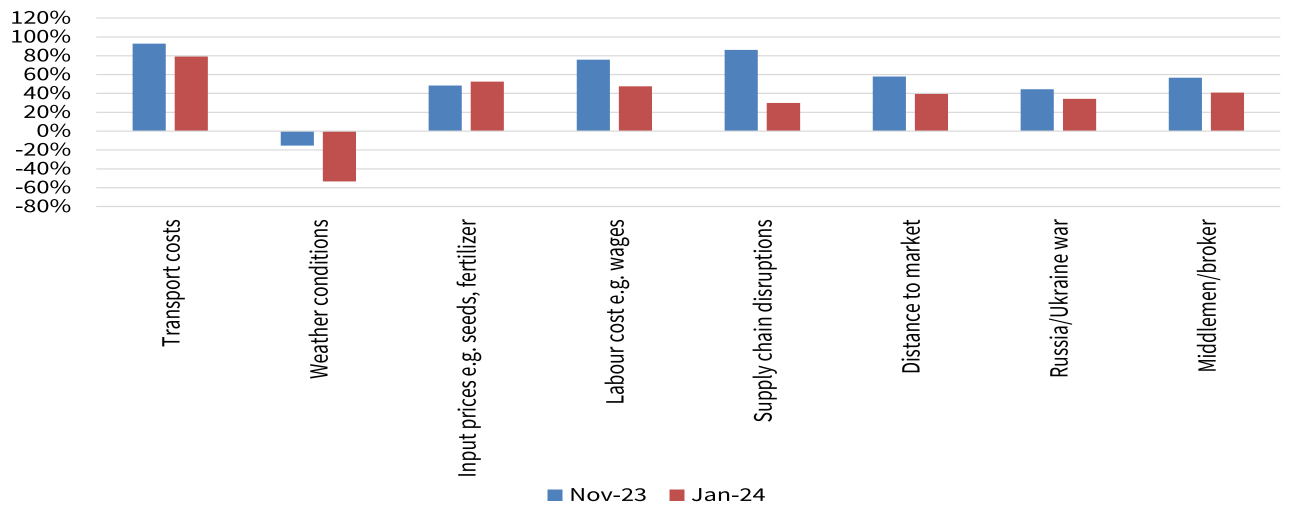
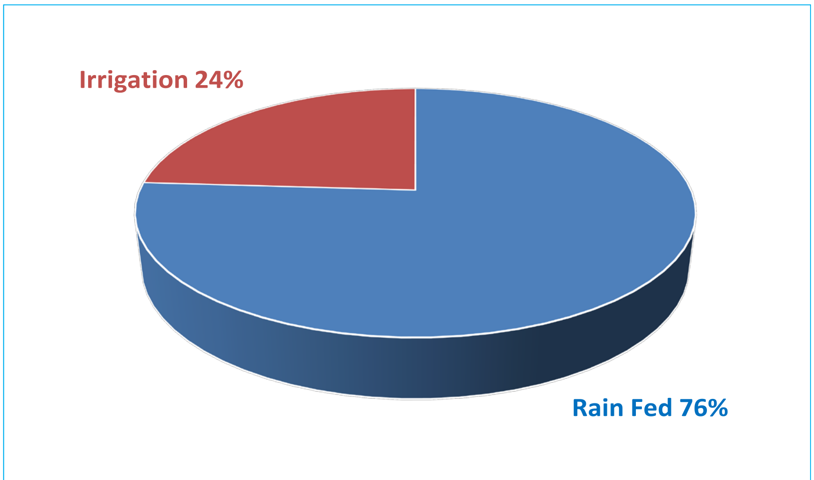


Figure 18: Main water source for farming



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