

Socio-Economic Status of Makueni County with COVID-19

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**Kenya Institute for Public Policy
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List of Acronyms

ADPs	-	Annual Development Plans
AFA	-	Agriculture and Food Authority
AI	-	Artificial Insemination
CIDC	-	Constituency Industrial Development Centres
CIDPs	-	County Integrated Development Plans
DSA	-	Drug and Substance Abuse
FAO	-	Food and Agriculture Organization
GBV	-	Gender Based Violence
GCP	-	Gross County Product
GDP	-	Gross Domestic Product
HA	-	Hectares
ICTs	-	Information Communication Technologies
ICU	-	Intensive Care Unit
KCB	-	Kenya Commercial Bank
KDHS	-	Kenya Demographic Household Survey
KNBS	-	Kenya National Bureau of Statistics
KNOCS	-	Kenya National Occupational Classification Standard
LREB	-	Lake Region Economic Bloc
LVSR	-	Low Volume Sealed Roads
M.I.C.E	-	Meetings Incentives Conferences and Exhibitions
MSMEs	-	Micro Small and Medium Enterprises
MT	-	Metric Tonnes
MTPs	-	Medium Term Plans
NGOs	-	Non-Governmental Organizations
OSR	-	Own Source Revenue
PFM	-	Public Finance Management
PPEs	-	Personal Protective Equipment
RAI	-	Rural Access Index
SDGs	-	Sustainable Development Goals
TVET	-	Technical and Vocational Educational and Training
UNICEF	-	United Nations International Children's Emergency Fund
UN	-	United Nations
WASH	-	Water Sanitation and Hygiene

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Executive Summary

Fiscal Policy

During 2019/20, the County experienced a decrease in its total revenue to Ksh 8.77 billion as compared to 2018/19 following the adverse effects of COVID-19 pandemic. The amount realized in 2020/21 was 90.8 per cent of the annual budget allocation of Ksh 10.32 billion, an improvement from 88.4 percent attained in 2019/20. The improvement was supported by the 108.6 per cent disbursement of equitable shares from the National government. On average, OSR contributed 5.01 per cent of the total revenues between 2013/14 and 2020/21. However, in 2020/21, the Country experienced a decline in OSR, contributing 4.97 per cent to the total revenue. At the end of 2020/21 pending bill totalled Ksh. 52.2 million, down from the highest record of Ksh 281.6 million recorded in 2019/20. Development expenditure related to pending bills have been greater than those related to recurrent expenditure on average accounting for 69.1 per cent of the pending bills portfolio. To ensure continued recovery, the county to move quickly to tackle the problem of pending bills, mobilize more finances from OSR to increase the available revenues for budgetary operations, seek for more funding in form of grants from development partners to cater for the critical development projects in the county and ensure that the ongoing projects are completed before launching new project and clear any pending bills and arrears owed to suppliers. In addition, Makueni County to mobilize more finances from OSR to increase the available revenues for budgetary operations and seek for more funding in form of grants from development partners to cater for the critical development projects in the county.

Agriculture, Livestock and Fisheries

Agriculture is the primary source of livelihoods in Makueni County. Key agricultural value chain commodities in the County include maize, beans, green grams, bananas, cassava, sorghum, kales and sweet potatoes, mangoes, avocado and citrus, watermelons, goats, cattle, donkeys, sheep, poultry production and bee keeping (apiculture). Among the socioeconomic effects on the COVID-19 pandemic on the agri-food sector in the County included negative effects on hours worked by in agriculture related occupations. Additionally, there was slowed trade and marketing activities due to the restrictions on movements leading to price shocks and shortages of food items. Agricultural productivity in the County was also affected by: variable and extreme weather events; low agro-processing and value addition opportunities; water scarcity ; dependence on rain fed agriculture; low access to quality and affordable inputs; low crops, livestock, and livestock products marketing opportunities; low access to major off-farm services including extension, agricultural credit and insurance, climate and market information, and credit services; and pests and livestock diseases; farm losses and post-harvest waste; and poor and inadequate market and storage infrastructure. To successfully build resilience and enhance growth of the agriculture sector, the County to: explore partnerships to develop agro-processing

and value addition capacities at the County; expansion of water harvesting projects and sustainable irrigation; scale up conservation agriculture, post-harvest management, plant and keep drought-tolerant crops and livestock breeds; link farmers to diverse product markets; strengthen the County's institutional capacity in disaster surveillance and management; enhance farmers access to critical agricultural inputs and services and build their technical capacity to act on information obtained; provision of storage and cooling facilities; natural resource management; and strengthen agricultural cooperatives to enhance marketing.

Water Sanitation and Hygiene (WASH)

Clean water, proper sanitation and good hygiene remains an essential component in protecting human health in times of outbreak of infectious diseases. World Health Organization (WHO) has emphasized frequent and correct hand hygiene as one of the front line measures to curb transmission of COVID-19. This has placed a higher demand for water use in households, schools, health care facilities, marketplaces, workplaces, and public places. This therefore, has necessitated the need for provision of water, sanitation, and hygiene by national and county governments to all. The county faced challenges in revenue collections due to COVID 19 which resulted into reduced incomes among households and businesses thus making it hard to collect revenue from the water services. This in the long run could affect the development of the water and sanitation sector. Additionally, COVID-19 poses health risks to water and sanitation officers leading to disruption of services. Other constraints to the sector include, drought, water leakages and destruction of water catchment areas. To ensure continuous availability of water, the national and county government to increase water supply in households, institutions, and public places through drilling of boreholes in all the sub-counties and Partner with private sector, donor agencies, local communities, and NGOs to help develop water infrastructure.

Manufacturing, Trade and MSMEs

The momentum in manufacturing, trade and MSMEs was disrupted by the COVID-19 pandemic as the containment measures associated with COVID-19 pandemic took a heavy toll on the sector. The measures adopted, such as closure of markets, observance of health protocols in form of social distancing and handwashing served to increase the cost of production and affected access to markets for the produce. In sustaining growth in the Manufacturing, Trade and MSMEs sector, the County to: Promote access to affordable financing with emphasis on strengthening the *Tetheka* Fund and other self-sustaining funds dedicated and easily accessible to MSMEs in the County; Promote tailor made financial literacy programmes for MSMEs and establishing a framework for micro-leasing for the MSMEs; Enhance skills for MSMEs by strengthening the link between curricula and practical skill sets required in the industry in all learning institutions and centres for vocational training in Makueni County; Providing access to affordable renewable energy in collaboration with the national government and other stakeholders for sustainable development; Providing for worksite and related infrastructure through partnership with other institutions both from public and private spheres to facilitate development of adequate and well-equipped worksites with workshops, common user facilities, incubation

centres and showrooms for artisans which is cluster informed and fully serviced. Worksites and market centres to have adequate waste disposal and toilet facilities for use by MSEs to maintain hygiene and health standards; Harmonizing the number of licenses and permits obtained by MSEs so as to streamline the operational requirements and improve the business environment; Establishing partnerships with neighbouring counties to facilitate trade and widen the market scope; Enhance market access for private sector both locally and regionally by developing the regional bloc value chains, market diversification and facilitating greater use of e-commerce in shifting transactions to digital economy; Establish an emergency rescue package for businesses and traders hard-hit by the effects of COVID-19 in the short run. The emergency Fund, supported by development partners and other stakeholders, can be used to identify, and support the most vulnerable businesses and entrepreneurs affected by COVID-19. Related, the County to inject some stimulus to cushion the businesses and traders through affordable credit; waiver of some County taxes, cess, and other charges; COVID-19 has increased demand for locally produced goods in the County, and especially Personal Protective Equipment (PPEs), sanitisers, hospital beds and ventilators. It is an opportunity to spur innovation and promote manufacturing and industry development and generation of jobs for the youth; Fast track establishment of an industrial park in Mtito Andei along the SGR line; and promote the sisal cottage industry.

Infrastructure, housing, and urban development

The main means of transport used in the County is walking followed by motorbike. The paved County Road network covers 43.84km, while the paved National roads cover 343.15km. Out of the total paved road network of 386.99km, 52.87 per cent is in good condition, 45.4 per cent in fair condition and 1.57 per cent in poor condition. The status of ICT access and use in the county is low, especially among the households. Approximately 98 per cent of the internet users in the county rely on mobile phone for connectivity. The high cost of internet service and cost of ICT equipment are identified as impeding factors that explain why households lack internet connection. The county has relatively good quality of the housing stock. Approximately 87.3 per cent of houses are constructed using finished materials for walls, floor and roofing, compared to 12.7 per cent constructed using rudimentary materials. However, the County experienced low investment and urban development due to the pandemic effects. In response to the prevailing challenges, key recommendations include Improve and expand infrastructure for Non-Motorized Transport (NMT) in urban areas and along roads with heavy –high speed traffic to promote sustainable mobility options and enhance road safety for all road users; Support programmes in partnership with the private sector that will enable households acquire ICT assets such as smart phones and laptops and increase mobile phone ownership; and Fast-track designation of Emali, Wote and Makindu as urban centers pursuant to provisions of the Urban Areas and Cities (amendment) Act, 2019.

Tourism

The county has diverse tourist attractions sites including archaeological sites and caves (Kisyula Leviathan Caves); Mudanda rock, Makongo valley and Umani springs in Kibwezi. Undoubtedly, there are inadequate structures tourism accommodation facilities since

the county does not have a star-rated provision. Sports tourism is underdeveloped due to limitation of resources and dilapidation of infrastructure for example the Wote stadium. The county has potential for enhancing tourism in the following areas that remains unexploited; Geotourism and Ecotourism this can be achieved with strong political support to remove policy bottlenecks and mobilise resources for the tourism sector. The County Government of Makueni can create an attractive environment for investors and tourists by repairing roads and bridges connected to Umani Springs, Chyulu and Nzau hills, the county to also consider upgrading major tourist centres like Tsavo West national park and Chyulu hills national park. On the recovery strategy; the County government to Increase allocation of annual total budget to tourism development to enable construction of modern theatre and art gallery to support development of talent in music, visual and performing arts; marketing of sculpture and handicrafts; and upgrading of sports stadia to develop talents in sports; Enhance investment in infrastructural development to promote more conducive environment for the housing sector particularly in the tourist attraction centres; Enforce sanitation and hygiene standards in all accommodation facilities and tourist attraction sites in line with the national guidelines for reopening of hospitality establishments in order to ensure business continuity; Conduct research on potential areas for investment in tourism to catalogue information on existing and potential tourism products in each sub county; branding and marketing tourism products; hosting promotional events such as annual tourism and trade investment expos and M.I.C.E. events.

Health

In 2019/2020, the number of health facilities in the county were 346, which comprised of 327 primary health facilities and 19 hospitals. This was an improvement from a total of 184 health facilities in the previous year, 2018. The number of beds per 10,000 population is 20 against the WHO recommendation of 30 beds per 10, 000 population. The National Hospital Insurance Fund (NHIF) was the leading health insurance provider reported by 97.9 per cent of the population. Employer contributory insurance cover was reported by 8.4 per cent of the population. The health sector in the county has been stable during this period where there is only one case of COVID-19 reported, the patients is under care in one of the health facilities. There are a few people put into quarantine. The county is also struggling with the health sector after devolution. There were inadequate structures to handle the responsibilities given to the county government. There are inadequate health workers to serve the large population in the county. In line with the health status in the county, some of the recommendations that need attention include the following: Create awareness on availability and importance of free maternity services and address other constraints to access of maternal health services; Revamp the Community Health Strategy and engage Community Health Volunteers (CHVs) and equip them with the relevant resources and skills.

Education training

About 99.9 per cent of public primary schools in Makueni County have been installed with ICT infrastructure and devices under the Digital Literacy Programme (DLP). The Gross Attendance Rate (GAR) for pre-primary school was 71.9 per cent while that of primary

school and secondary school was 127.2 and 71.7 per cent respectively in 2015/16. The county has also low internet access 9.4 per cent which constrain online learning across the County. Furthermore, only 4.0 percent of the households had access to ICT equipment such as laptops and computers. This makes it difficult for the pupils and other students to benefit from national learning programme which had been started by the government. The county to prioritize projects that improve school water, sanitation and hygiene facilities and management in order to reduce future effect of similar or related outbreak while promoting public health in learning institutions, promote remedial/catch up lessons for learners who might have lagged behind also schools to utilize ICT platforms and have a depository of teaching and learning materials that learners could use at their own time and while at home, provide financial or in-kind support, such as school feeding, to help families overcome the increased costs of attending school, also provide psychosocial support to teachers and learners and fight drug and substance abuse among the youths in the county. This can be done through counseling and ensuring that they are not idle especially this period when learning institutions are locked.

Social Protection

The overall poverty rates in the county stand at 67 per cent which is higher than the national average of 36.1 per cent. The county's food poverty levels are at 35 per cent and 31 per cent of the total population is multidimensional poor. Severe shocks have had negative impact to the household's economic and social welfare of county residents. Households in the county received various forms of social assistance or transfers or gift either in form of a good, service, financial asset, or other asset by an individual, household, or institution. Transfers constitute income that the household receives without working for it and augments household income by improving its welfare. Cash transfers include assistance in form of currency or transferable deposits such as cheque and money orders. COVID-19 exposed lack of preparedness among counties in terms of responding to the emergencies such as COVID-19 pandemic. It provided an opportunity to measure how county governments are prepared to handle the devolved functions. COVID-19 pandemic created effects with immediate and long-term economic consequences for children, PWDs, elderly and their families. To strengthen social protection response in face of a similar pandemic, the Makueni County government to conduct mass civic education disaster preparedness and mitigation, enroll more county residents in welfare programmes such as NHIF which will ensure that they access medical treatment in case of falling sick and give tax exemption for the SMES who have suffered losses in their business as result of diseases outbreak.

Labour Participation

Agriculture is the predominant economic activity in the county. It is the leading sub sector in employment, food security, income earnings and overall contribution to the socio-economic wellbeing of the people. Unemployment increased during COVID-19 the period. According to the May 2020 KNBS COVID-19 Survey, 51.0 per cent of workers in Makueni County recorded having lost income and 19.9 per cent recorded working as unpaid workers. The labor participation rate in Makueni County declined significantly because of the pandemic. According to the KNBS, COVID-19 survey 2020, the regular

worktime declined by 36.3 per cent. The County government to promote implementation of a stronger labour market interventions and policy reforms that drive employment creation. The County to deepen technical education, training and skills development, promote investment and entrepreneurship through provision of loans, the county Government to improve access to finance for small and medium enterprises through lending institutions and formulate measures aimed at encouraging employment creation through corporate social responsibility (CSR), including expanding the internship programs and promoting Information Technology (IT) enabled jobs.

1 Introduction and Structure of Makueni County Economy

1.1 County Context

Makueni County is one of the Counties in the South Eastern Economic Bloc (SEKEB). The county occupies a land area of 8,176.7 mm². The county has a population of 987,653 people of whom 49.6 per cent were male and 50.3 per cent female (KNBS, 2019) as indicated in table 1. Of the population 36,369 (or 4.1 per cent) are persons with disabilities of whom 59.8 per cent are female. The youth constituted 4.8 per cent of the population of whom 48.8 per cent were female. The county has a population density of 121 per km². About 92.2 per cent of the population live in rural areas of whom 50.5 per cent are female. The elderly population (age 65 year and above) made up 0.8 per cent of the total population of whom 58.1 per cent were female. The population in school going age group (4-22 years) was 44.7 per cent in 2019.

In 2015/2016, the overall poverty rate in Makueni County was 35 per cent against the national poverty rate of 36.1 per cent. In addition, 30.6 per cent of the population were living in food poverty and 67.2 per cent were living in multidimensional poverty, that means being deprived in several dimensions including health care, nutrition, and adequate food, drinking water, sanitation and hygiene, education, knowledge of health and nutrition, housing and standard of living, and access to information. According to KDHS 2014, 25.1 per cent of the children were stunted compared to 26.0 at national level.

Table 1.1: Development indicators in Makueni County

	County	National
Estimated County Population (KNBS, 2019)	987,653	2.1% of total population
Males		49.6%
Females	489,691	50.3%
Intersex	497,942	0.02%
	20	
Estimated Population Density (persons/km ²)	121	82
Persons with disability	4.1%	2.2
Population living in rural areas (%)	92.2%	68.8%
Children (0-14 years) (%)	39.0%	41.1%
School going age (4-22 years) (%)	44.7%	68.7%

Youth 15-34 years (per cent)	48	36.1%
Labour force (15-64 years) (%)	56.0%	55.0%
Elderly population (over 65-year-old)	0.8	3.9%
Number of COVID-19 cases (as of 11 th September 2020) (MOH); National cases were 35,232	181	0.5% of the National cases
Poverty (2015/2016) (%)	35%	36.1%
Food Poverty (2015/2016) (%)	30.6%	31.9%
Multidimensional Poverty (2015/2016) (per cent)	67.2%	56.1%
Stunted children (KDHS 2014)	25.1%	26%
Gross County Product (Ksh million) 2020	111,071	1.1% share to total GDP
Average growth of nominal GCP (2013-2020) (%)	15.2%	104.8%

Data Source: KNBS (2019)

The age distribution of the county residents as per the 2019 Housing and Population Census is shown in table 1.2. The bulk of the County's population is in the age group of between 15-34 years comprising of 199,392 individuals. They are followed by persons aged between 6-13 years who are the primary school children comprising of 199,392 of the county population. The under 0-3 age comprise of 75,971 of the county population. This shows that the county has a general youthful population.

Table 1.2: Population distribution for selected age groups in the County (2019)

Age Group	Male	Female	Total
Under 0-3	38,328	37,643	75,971
Pre-primary school age (Under 4-5)	21,230	20,375	41,605
Primary School Age (6 -13)	100,690	98,702	199,392
Secondary school age (14-17)	55,509	52,728	108,237
Youth Population (15-34)	169,708	165,069	334,777
Female Reproductive age (15-49)		243,045	243,045
Labour force (15-64)	287,551	289,163	289,163
Aged Population 65+	27,900	38,791	66,691

Data Source: KNBS (2019)

1.2 Level of Socio-Economic Deprivations

In 2015/2016, 13.5 per cent of the population had health insurance cover, 15.9 percent lived in premises with water, 82.8 per cent lived in their own homes and 65 per cent had access

to mobile telephone (Table 1.3) and majority of the households (98.2%) had access to toilet facility. As a result, the multi-dimensional poverty is estimated at 67.2 per cent.

Table 1.3: Level of Deprivations for the various indicators for multidimensional poverty in the county

Indicator	Details	Percentage Distribution (%)
Health care	Population with Health Insurance Cover	13.5
Drinking water (Time taken to fetch)	Zero (In premises)	15.9
	less than 30 minutes	49.6
	30 minutes or longer	34
Sanitation and Hygiene	Proportion of households with toilet facility	98.2
	Shared Toilet	37.3
	Not Shared	62.7
	Place to wash hands outside toilet facility	4.6
	No place to wash hands outside toilet facility	95.2
Education (Population 3 years and Above by School Attendance Status)	Ever Attended	94.2
	Never Attended	5.8
Knowledge of health and nutrition (children aged 0-59 months that participated in Community Nutrition Programmes)	Participated in Community Nutrition Programmes	51.9
	Did not Participated in Community Nutrition Programmes	47.4
Housing and standard of living (house ownership)	Owner Occupier	82.8
	Pays Rent/ Lease	13.8
Access to information (Population Aged 3 years and above by ICT Equipment and Services Used)	Television	27
	Radio	81
	Mobile phone	65
	Computer	5.7
	Internet	86

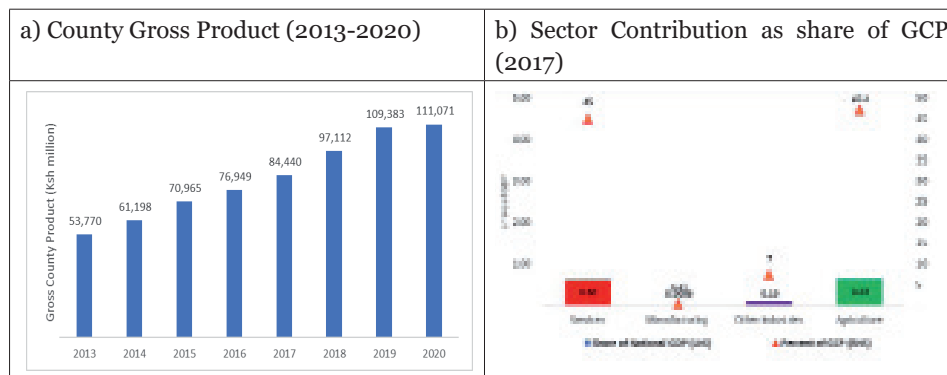
Source: KIHBS 2015/16

1.3 Structure of Makueni County Economy

Makueni County Gross County Product (GCP) accounted for 1.1 per cent of total Gross Domestic Product (GDP) between 2013 and 2020 (Figure 1). The GCP increased from Ksh 53,770 million in 2013 to Ksh 111,071 million in 2020 representing an average annual growth rate of 15.2 per cent.

The services sector includes such activities as wholesale and retail trade. Agriculture is mainly dominated by crop farming (cash crops and food crops), livestock keeping (dairy and beef cattle, goats, and poultry), bee keeping and fishing activities while industry is mainly dominated by agro-industrial, handcraft centers and ceramic industry.

Figure 1.1: Structure of the county economy, 2013-2020



Data Source: KNBS (2019)

1.4 COVID-19 caseload and implications of mobility restrictions

As of March 2020, Makueni County had zero cases. However, by August 2020, the County had reported 90 COVID-19 cases with mobility stringency of 70.4. The caseload would rise to 1,554 by August 2021 with mobility stringency of 56.0. The mobility stringency index is a composite measure rescaled to a value from 0 to 100 (100=strictest) based on nine response mobility indicators. The nine metrics used to calculate the mobility stringency index include school closures, workplace closures, cancellation of public events, restrictions on public gatherings, closure of public transport, stay-at-home requirements, public information campaigns, restrictions on internal movements and international travel controls. An index measure closer to 100 means high incidence or severity of mobility restrictions. The County mobility stringency index implies the severity of the restrictions was moderate.

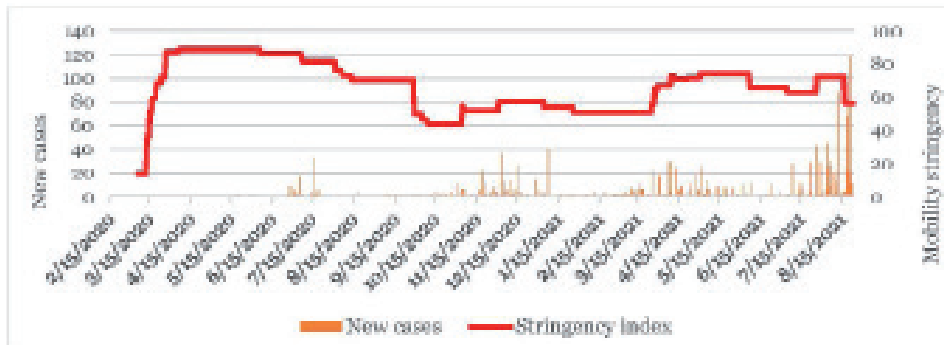
Table 1.4: COVID-19 cases in Makueni county and the country's mobility stringency

Date	Total cases	Mobility stringency (0-100)
13 th March 2020	0	36.1
23 rd August 2020	90	70.4
23 rd August 2021	1,554	56.0

Data Source: Oxford University

New COVID-19 cases in Makueni County were highest between June 2020-July 2020, November 2020-January 2021, March 2021-May 2021, and July 2021-August 2021. During the four time-periods, spikes in new cases in the County were preceded by relaxation of COVID-19 mobility restrictions. Reduction in the County's new cases was similarly preceded by tightening of mobility restrictions.

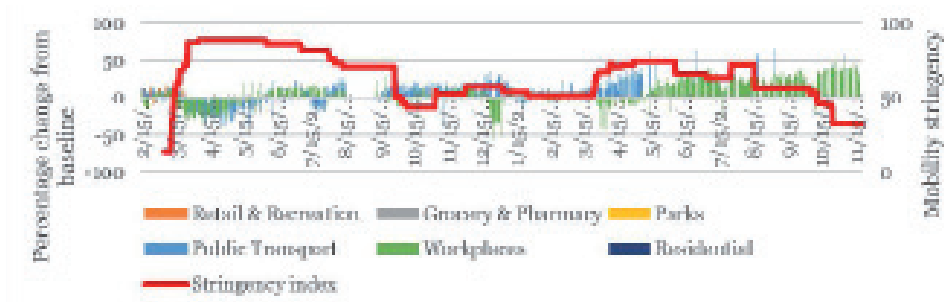
Figure 1.2: COVID-19 cases in Makueni county and the country's mobility stringency



Data Source: Oxford University

Workspaces and public transport have been the largest beneficiaries of less stringent mobility restrictions in Makueni County. The sub-sectors have, however, shrunk the most during periods of tighter mobility restrictions.

Figure 1.3: Effect of COVID19 On Kitui county Economic performance and the national Mobility Stringency



Data Source: Oxford University

Organization of the report

The broad objective of the report is to analyze the socioeconomic effects of COVID-19 across sectors and propose interventions for mitigating the effects. The report is organized as follows. Chapter 2 focuses on fiscal policy; Chapter 3 focuses on agriculture, livestock and fisheries; chapter 4 focuses on water sanitation and hygiene; chapter 5 focuses on manufacturing, trade and MSEs; chapter 6 focuses on transport and information and communication technology; chapter 7 focuses on urban development; chapter 8 focuses on tourism, chapter 9 focuses on health; chapter 10 focuses on education and training; chapter 11 focuses on social protection; chapter 12 focuses on human resources and chapter 13 concludes the report.

2 Socio-Economic effect of COVID-19

2.1 Fiscal policy

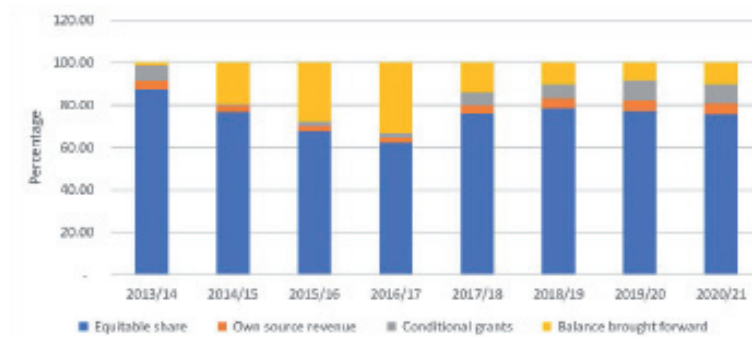
Availability of financial resources is critical for implementation of county operations. Timely and adequate funding aid in successful implementation of the county's projects. The County's main revenue sources comprise of the transfers from the National Government, Conditional Grants and its own source revenue (OSR).

Transfers from National Government

The county total revenue has significantly increased over the years as the Government focus on enhanced services to the citizens. Makueni County total revenue increased by 16.16 percent from Ksh 4.98 billion in 2013/14 to Ksh 10.63 billion in 2020/21. During 2019/20, the County experienced a decrease in its total revenue to Ksh 8.77 billion as compared to 2018/19 following the adverse effects of COVID-19 pandemic. The amount realized in 2020/21 was 90.8 per cent of the annual budget allocation of Ksh 10.32 billion, an improvement from 88.4 percent attained in 2019/20. The improvement was supported by the 108.6 per cent disbursement of equitable shares from the National government.

Analysis of the sources of county revenue indicate that equitable share from the National Government has been the main source of county funding accounting for more than 62 per cent of the total revenues (figure 2.1). The share of equitable share to total revenue averaged 75.35 percent between 2013/14 and 2020/21. The nominal value of equitable share has grown by 84.21 per cent from Ksh 4.37 billion in 2013/14 to Ksh 8.04 billion in 2020/21. During 2020/21, the County received 108.6 per cent of the annual budget allocation, significant improvement from 91.4 per cent received in 2019/20. This underscores the commitment of the National Government to support county operations through timely financing.

Figure 2.1: Share of county revenues by source



Data Source: Office of the Controller of Budget (Various reports)

Monthly cash transfers from the National Government have always had an increasing trend from January to June over the years as shown in table 2.1. A similar trend was observed in 2020 with the transfers growing by 71.89 per cent from Ksh 4.27 billion in January to Ksh 7.34 billion in June. In comparison to 2019, the total amount transferred to Makueni County in March, April, May, and June of 2020 increased by 13.33 per cent from Ksh 22.81 billion to Ksh 25.85 billion. This shows that the county received more from the National Government for the 4 months considered in relation to the same duration in the previous year. This was a welcomed move by the county to enable it fulfil its obligations including financing its budgetary operations as well as implementing the measures needed to curb the spread of Corona virus.

Table 2.1: Monthly cash transfers from National Government (Ksh million)

	Jan	Feb	Mar	Apr	May	Jun	Oct	Nov	Dec
2021	3,998.32	4,681.79	-	-	-	-	2,033.20	-	-
2020	4,271.48	5,024.70	5,617.19	6,405.47	6,481.68	7,342.04	1,858.93	2,676.35	3,316.89
2019	3,079.39	3,673.69	4,362.28	5,027.61	5,647.84	7,769.31	5,647.84	1,935.58	2,740.02
2018	1,619.62	2,299.22	3,578.36	4,124.38	4,812.66	7,237.83	864.62	1,517.56	2,366.61
2017	-	-	3,768.19	4,347.91	5,422.80	6,453.42	-	-	-
2016	-	-	3,492.26	4,507.10	5,014.52	5,014.52	-	-	-

Data source: Gazette Notice (Various issues)

Conditional grants

Conditional grants are also a major source of revenue for financing county operations and has been growing over the years. The County receives conditional grants from the National Government and development partners mainly from World Bank and Danish International Development Agency (DANIDA), European Union (EU) and Sweden. During 2020/21, the County received Ksh 304.7 million and Ksh 687.06 million from National Government and Development partners respectively. The contribution of conditional grants to total revenue has been robust and increased over the years. On average, the grants contributed 5.43 per cent of the County total revenue between 2013/14 and 2020/21. In nominal terms, conditional grants have been on an upward trajectory, increasing from Ksh 354.91 million in 2013/14 to Ksh 991.77 million in the 2020/21. To sustain the increasing trend of conditional grants, the county needs to continue fostering the good relationship with development partners and adhering to the conditionalities of the grants.

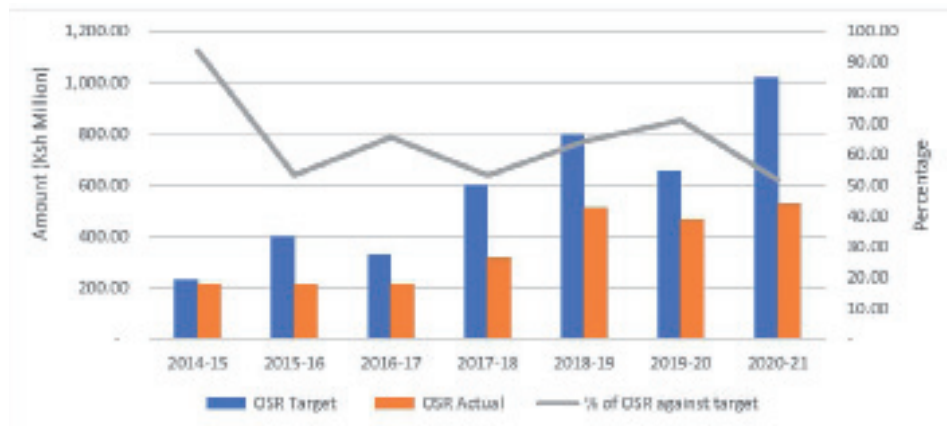
Own Source Revenue

The share of OSR to the total revenue has similarly increased over the years from a low of 2.10 per cent in 2016/17 to a high of 5.31 per cent during 2019/20 (Figure 2.1). On average, OSR contributed 5.01 per cent of the total revenues between 2013/14 and 2020/21. However, in 2020/21, the Country experienced a decline in OSR, contributing 4.97 per cent to the total revenue.

Analysis of annual County OSR performance shows an initial declining trend between 2014/15 and 2015/16, before a persistent increase from 2016/17 to 2018/19 (figure 2.2). During 2018/19, the county collected the highest OSR amounting to Ksh 511.70 million a

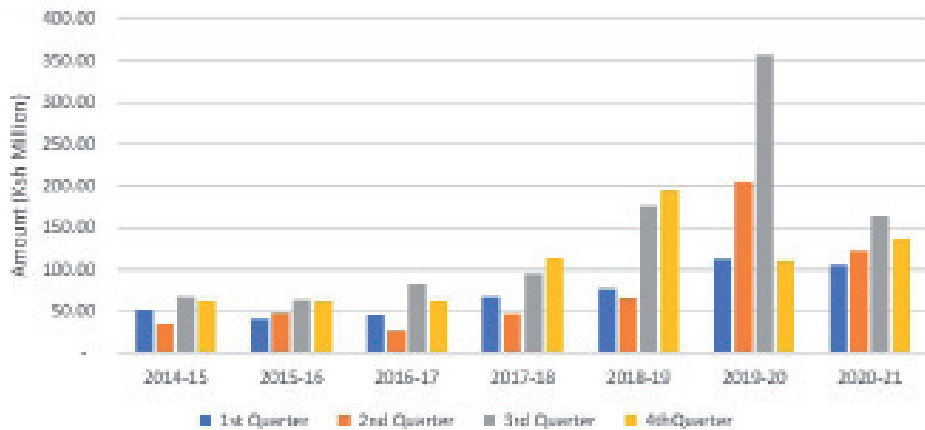
significant growth from a low of Ksh. 216.26 million realized in 2016/17. The performance of actual OSR versus target indicate that the county achieved at least 53 per cent of its target over the period. In FY2019/20, the county generated Ksh 465.94 million from OSR, which was 8.9 per cent decreased compared to Ksh 511.70 million realized during 2018/19. The slight decline was attributed to the economic shocks triggered by the COVID-19 pandemic in the County given that various containment measures were instituted to contain the spread of corona virus. In 2020/21, the County generated Ksh 527.53 million as OSR representing an increase of 13.2 per cent compared to the amount realized in 2019/20. The improved performance was premised on the ease of the containment measures across the Country and economic recovery.

Figure 2.2: Annual own source revenue targets and actual collections



Data Source: Office of the Controller of Budget (Various reports)

The county collects most of its OSR during the third and fourth quarters (Figure 2.3). This may be attributed to the collection of single business permit that is due every 31st March of the year. During 2019/20, a similar trend was observed with the county collecting the highest OSR amounting to Ksh 151.43 million during the third quarter. However, this was 14 percent decline compared to Ksh. 175.39 million realized during the third quarter of 2018/19 following the adverse effects of COVID-19 pandemic experienced in 2019/20. The decline was further experienced during the fourth quarter of 2019/20 with the county realizing Ksh 109.37 million. This represented 38 per cent decline compared to the third quarter collections of 2019/20 and 44 percent decline compared to Ksh 194.42 million realized during the fourth quarter of 2018/19. Similarly, the quarterly performance remained low during 2020/21. The significant decline experienced was premised on the containment measures undertaken to manage the spread of Coronavirus that led to low economic activity in the county and slowed down revenue collection.

Figure 2.3: Quarterly Own Source Revenue collection

Data Source: Office of the Controller of Budget (Various reports)

2.2 County expenditure analysis

Economic and political crises, natural disasters (such as droughts and flooding), security challenges and health crisis (such as the COVID-19 pandemic) highlight the consequential risks and underlying vulnerabilities in national and county level budgetary and planning system. These can substantially affect public resources and in cases of weaker planning systems, they may affect the nature and level of service delivery to the citizen.

The UN Sustainable Development Goals (SDGs) emphasize the productive role of targeted and strategic county level expenditure. The 2014 UN Secretary General’s Synthesis Report on the Sustainable Development Goals (SDGs) states “many of the investments to achieve the sustainable development goals will take place at the sub-national level and be led by local authorities”¹. It is at the counties that economic activity takes place and when spending priorities and execution are done just right then the county and country will be set to the desired development trajectory.

Despite their constrained fiscal autonomy (e.g. inability to borrow funds) and relatively small budgets, the county government has a key role to play in promoting growth as espoused in the Kenya Constitution. This is particularly the case with development expenditure, which is within the assigned remit of county as per the PFM Act of 2012 and is key to the county’s future growth prospects given several decades of under-investment which have constrained productive capacity in the local economy.

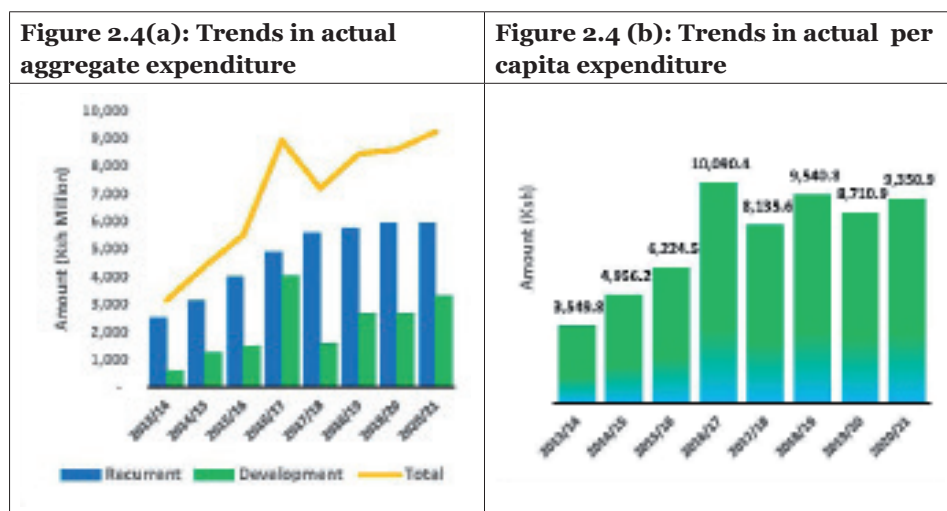
Trends and profile of county government expenditures

County expenditure has over the years been rising as the county escalates its efforts in provision of services to its residents. Total county expenditure has grown significantly since 2013/14. With the implementation of the first full year county budget in 2013/14, actual expenditure in the county increased from Ksh 3,139.9 million to Ksh 9,235.4 million in

1 UN General Assembly (2014), p. 22, par. 94.

2020/21 (Figure 2.4). Cumulatively the county has spent a total of Ksh 55.4 billion between 2013/14 and 2020/21. This comprises of a cumulative Ksh 37.8 billion and Ksh 17.6 billion on recurrent and development expenditures representing 68.2 per cent and 31.8 per cent of the cumulative recurrent and development expenditure respectively. This signals that development expenditure has performed relatively and more development expenditure is required to support deepening of capital spending in the county.

Figure 2.4: County expenditure analysis



Data Source: Office of the Controller of Budget

Consistent with the nominal growth in actual county expenditures, spending on a per capita basis has shown upward growth over the period. In 2013/14, per capita spending in the county was about Ksh 3,549.8 compared Ksh 8,135.6 in 2018/19 and Ksh 9,350.9 in 2020/21. The average per capita spending between 2013/14 and 2020/21 stood at Ksh 7,569.9.

Utilization of public resources in the county

Analysis of expenditures by economic classification and by departments (spending priorities) reveal interesting insights. It is evident that since inception of devolution, the county government prioritized narrowing the economic and social infrastructure gaps. Much of government development expenditures has been dominant in provision of health services, public works, education, agriculture, as well as trade and industry.

Figure 2.5: County government expenditure by economic classification (% of total county government expenditure)



Source: Office of the Controller of Budget

County development expenditure has performed remarkably accounting for an average of 30.1 per cent between 2013/14 and 2020/21 as represented in Figure 2.5. In 2016/17 the share of development expenditure performed remarkably and accounted for almost half of the county expenditure. While development expenditure has performed well, compensation of employees has been burgeoning between 2013/14 and 2020/21. The average share of compensation of employees in total county budget over the review period was 41.4 per cent. Surprisingly in 2016/17, compensation of employees accounted for 30.4 per cent of the budget thereafter remained above 40 per cent in the post 2016/17 period. This is the period the county recovered from internal challenges hence all development projects were moved to the next financial year.

Reflecting on expenditures by functional classification (priority spending), the county spent a combined average of 70.9 per cent of the total expenditure during the period 2014/15 to 2020/21 on non-administrative services such health services; transport infrastructure and public works; education, science, and technology; agriculture, livestock and fisheries; and trade and industry. Spending on health services accounted for 32.8 per cent of the spending. Transport and infrastructure, accounted for 8.4 per cent.

Table 2.2: County departmental/priority spending

	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	Average spending	Average share in spending
Health Services	1,264.9	1,769.5	2,625.4	2,357.0	2,973.3	3,049.3	3,105.6	2,449.3	32.8
County Assembly	450.2	664.0	657.3	643.6	727.5	766.3	802.8	673.1	9.0
Transport and Infrastructure	400.5	281.5	731.3	236.0	935.1	835.9	983.6	629.1	8.4
Water and Sanitation	343.4	539.6	938.4	526.7	595.4	664.7	765.0	624.7	8.4
Agriculture, Irrigation, Livestock & Fisheries development	251.6	308.2	812.2	546.9	764.2	751.8	764.2	599.9	8.0
Finance and Socio-Economic Planning	287.5	520.3	613.9	732.3	660.7	583.2	741.8	591.4	7.9
The Governor, deputy governor and county attorney	186.7	297.7	561.8	949.5	514.8	634.4	664.4	544.2	7.3
Education, Sports and ICT	464.0	327.8	620.0	506.2	555.1	558.8	539.9	510.2	6.8
Devolution, County Administration & Public Service	252.1	388.6	333.0	264.9	284.2	341.2	310.4	310.6	4.2
Gender, Culture and Social Services	127.6	161.2	457.1	158.8	85.2	150.9	128.7	181.4	2.4
Lands, Urban Development, Environment and Climate change	118.5	70.0	229.5	68.0	183.8	146.2	211.1	146.7	2.0
Trade, Tourism & Cooperatives	196.4	129.3	275.6	140.0	98.6	74.3	112.3	146.6	2.0
County Public Service Board	40.7	48.0	67.2	65.0	58.7	46.4	45.1	53.0	0.7
TOTAL	4,383.9	5,505.8	8,922.5	7,194.8	8,436.5	8,603.3	9,174.7	7,460.2	100.0

Source: KIPRA based on Office of the Controller of Budget

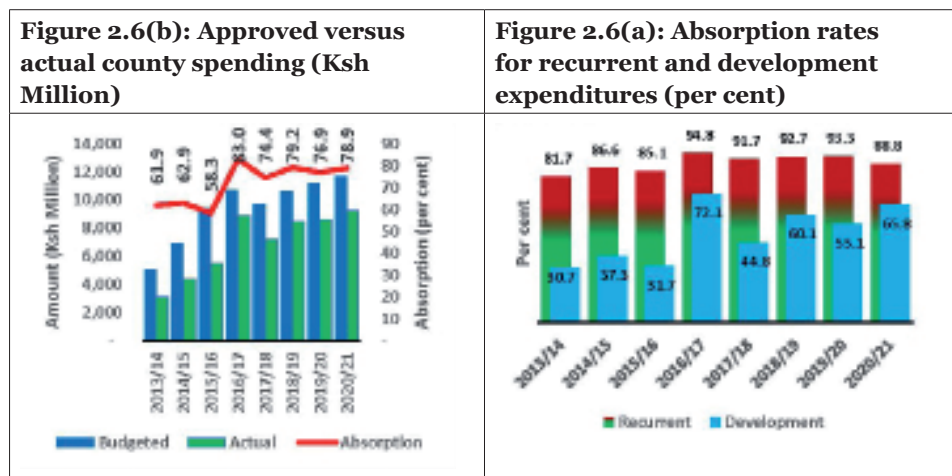
Water and sanitation, 8.4 per cent, followed by agriculture, irrigation, livestock, and fisheries development at 8.0 per cent, education, sports and ICT at 6.8 per cent while Gender, Culture and Social Services accounted for 2.4 per cent, lands, urban development, environment and climate change accounted for 2.0 per cent and Trade, tourism and cooperatives accounted for 2.0 per cent. Further during the review period co-ordination and administrative functions accounted for a combined 29.1 per cent with county assembly leading at 9.0 per cent, finance and socio-economic planning 7.9 per cent, the executive office (The Governor, deputy governor and county attorney) 7.3 per cent, devolution, county Administration and public service accounted for 4.2 per cent while county public service board accounting for 0.7 per cent.

Effectiveness of County spending

Total budget execution averaged 71.9 per cent in the period 2013/14 to 2020/21. In 2013/14 overall total budget execution stood at 61.9 per cent. This execution improved to 83.0 per cent in 2016/17 before taking a dip in 2017/18 due to election related shocks to funding from National government. At the end of 2020/21 budget absorption stood at 78.9 per cent meaning that in 2020/21 only Ksh. 9,235.4 million was utilized out of the approved budget of Ksh. 11,705.1 million (Figure 2.6).

With regards to development budget execution in the county, the average absorption rate between 2013/14 to 2020/21 was 49.7 per cent (implying that on average over 50.3 per cent of the development budget is not absorbed). This implies existence of shortfalls budget implementation, and the county to continue tightening budget implementation to ensure achievement of greater absorption rates to keep help achieve the targets in Annual Development Plans (ADPs) and the County Integrated Development Plans (CIDPs). On recurrent expenditure, the execution has been robust over the years, the average absorption rate has been 89.3 per cent leaving about 10.7 per cent of unspent recurrent budget.

Figure 2.6: County approved expenditure and absorption rates

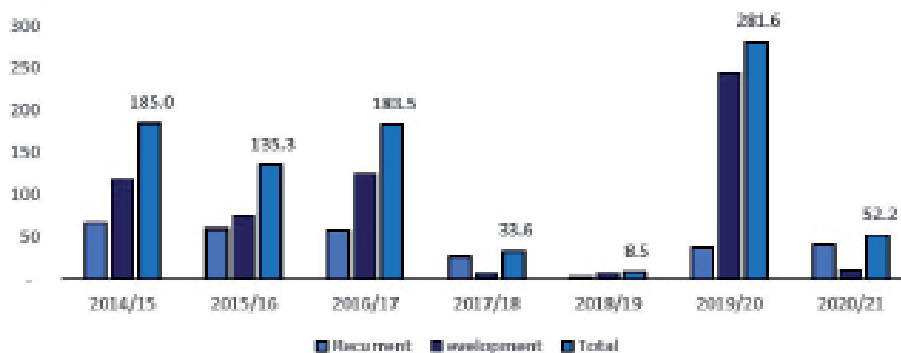


Source: KIPPR based on Office of the Controller of Budget

Pending Bills

In 2014/15 the county reported Ksh 185.0 million in pending bills. This declined to Ksh. 135.3 million in 2015/16 with development spending related pending bills accounting for 55.8 per cent of this. In 2016/17 bending bills increased to Ksh 183.5 million before slowing to Ksh 33.6 million and Ksh 8.5 million in 2017/18 and 2018/19 respectively. At the end of 2020/21 pending bill totalled Ksh 52.2 million, down from the highest record of Ksh 281.6 million recorded in 2019/20. Generally, pending bills related to development have been greater than those related to recurrent expenditure on average accounting for 67.0 per cent of the pending bills portfolio. The average development and recurrent expenditure related pending bills was Ksh 84.2 million and Ksh 41.5 million respectively during the 2014/15 to 2020/21 period. If pending bills for development were paid in their respective fiscal year, the execution of development budget in subsequent years would improve.

Figure 2.7: Profile of county pending bills



Source: KIPRA based on Office of the Controller of Budget

To achieve its overall goal of improving lives and livelihoods of its residents, the county government must expedite payment of pending bills. Increasing and persistent pending bills is a threat to the survival of the private sector particularly primary firms that trade with the county government. These firms are critical for employment creation as well as driving economic activity within the county. These bills have not only affected their profitability and overall performance but have also become a threat to private sector in general and the families that depend on these firms through ripple effect. If not well monitored these could grow and eat up on the county’s already thin revenue sources.

2.3 Conclusions

- i. Mobilize more finances from OSR to increase the available revenues for budgetary operations.
- ii. Seek for more funding in form of grants from development partners to cater for the critical development projects in the county.
- iii. Ensure that the ongoing projects are completed before launching new project and clear any pending bills and arrears owed to suppliers.
- iv. Ensure the ongoing infrastructure project are completed and suppliers paid within the specified timelines for optimal returns to investment and to spur private sector activity.
- v. Improve budget execution and absorption of development budget by harmonizing project implementation cycles to budgeting and fast-track exchequer releases.
- vi. Reduction of expenditure on compensation of employees within the PFM requirement since ballooning compensation of employees potentially affects execution of key development programs especially if not brought to sustainable levels.
- vii. Monitoring and prompt payment of pending bills as they limit execution of planned activities in subsequent budgets.

3 Agriculture, Livestock and Fisheries

3.1 Characteristics of the Sector

Agriculture accounts for a significant share of economic activity in Makueni County. More than 40 per cent of the County's economic activity is driven by the agriculture sector. In 2017, agriculture accounted for Ksh 47,606 million out of the total Ksh 100,924 million Gross County Product (GCP) amounting to 47.2 per cent of the County's GCP.

Over 70 per cent of the households in Makueni County practice farming. About 73.8 per cent of the households produce crops, 64.6 per cent produce livestock, 0.2 per cent practice aquaculture and about 0.4 per cent are involved in fishing. About 6.3 per cent of the households practice irrigation farming.

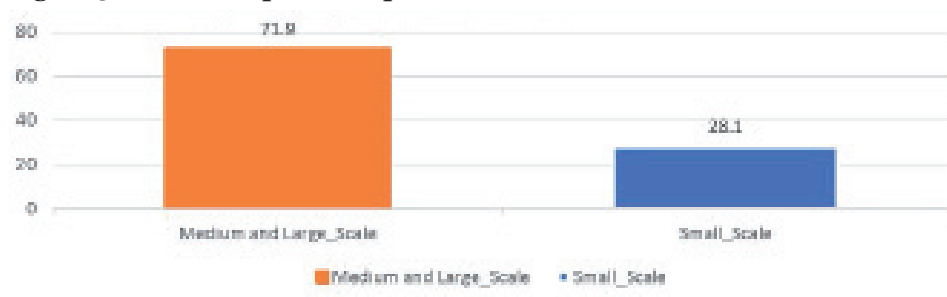
Table 3.1: Distribution of households practicing agriculture, fishing and irrigation by county and sub-county

County/Sub County	Total Households	Farming Households	Crop Production	Livestock Production	Aquaculture	Fishing	Irrigation
Kenya	12,143,913	6,354,211	5,555,974	4,729,288	29,325	109,640	369,679
Makueni	244,669	193,531	180,639	157,946	394	908	15,313
Kathonzweni	18,365	15,666	14,130	13,978	24	60	703
Kibwezi	47,912	33,820	29,084	27,645	77	166	2,036
Kilungu	14,586	12,881	12,457	10,182	26	71	1,659
Makindu	21,756	14,334	12,115	11,710	28	151	984
Makueni	34,479	26,021	25,179	20,749	84	106	2,125
Mbooni East	23,734	21,461	20,939	17,985	32	123	1,183
Mbooni West	24,833	22,069	21,464	16,721	30	57	3,248
Mukaa	28,185	22,133	21,171	18,432	36	70	1,026
Nzaui	30,819	25,146	24,100	20,544	57	104	2,349

Source: 2019 Kenya Population and Housing Census

On the scale of production, the FAO criterion on land size is used to identify small holder farmers as those producers that “fall in the bottom 40 per cent of the cumulative distribution” (Khalil et al., 2017). Using this criterion, about 28.1 per cent of the farming households in Makueni County are “small-scale” farming with a land holding of 0.675 or less acres of land.

Figure 3.1: Scale of operation: per cent of households



Source: KIHBS 2015/2016. Figures for a period of the 12 months

The County is classified in the Semi-arid uplands agro-ecological zone as per the Agricultural Sector Transformation and Growth Strategy (ASTGS) 2019-2029, suitable for suitable for dryland crops such as sorghum and pigeon peas, Poultry and beef cattle. An overall analysis of the County agricultural production indicates among the top food crops produced by households in Makueni include Maize, Beans, Green grams, Bananas, Cassava, Sorghum, Kales and Sweet Potatoes.

Table 3.2: Distribution of households growing crops by type, county and sub-county

County /Sub County	Makueni County	Kathon-zweni	Kibwezi	Kilungu	Makindu	Makueni	Mbooni East	Mbooni West	Mukaa	Nzaui
Maize	176,503	13,792	27,902	12,264	11,577	24,706	20,622	21,181	20,838	23,621
Beans	137,972	7,183	10,918	11,953	6,083	22,675	18,669	20,651	19,847	19,993
Green grams	69,800	11,177	21,402	397	8,944	6,568	8,710	1,370	2,658	8,574
Bananas	49,487	781	1,184	8,065	476	9,637	6,192	11,744	5,720	5,688
Cassava	45,628	1,179	3,984	6,415	1,205	7,769	4,005	9,076	6,186	5,809
Sorghum	34,867	5,465	9,449	328	2,694	4,234	5,991	1,445	1,866	3,395
Kales	33,585	1,605	3,302	3,520	1,434	5,365	3,330	6,850	2,893	5,286
Sweet Potatoes	29,899	982	1,560	2,679	1,189	5,789	3,983	5,390	4,042	4,285
Tomatoes	12,906	646	1,291	1,141	694	2,016	1,164	2,416	1,217	2,321
Potatoes	12,328	50	132	3,882	70	750	193	4,472	2,397	382
Sugarcane	12,286	175	445	2,831	152	1,871	933	2,943	1,187	1,749
Onions	6,773	293	396	706	203	1,126	713	1,656	847	833
Millet	6,607	989	1,582	81	468	566	1,174	417	454	876
Cabbages	6,382	106	236	1,342	123	755	332	1,731	786	971
Watermelons	5,887	537	1,597	114	503	912	624	376	420	804
Cotton	1,564	220	367	62	70	214	194	118	46	273

Source: 2019 Kenya Population and Housing Census

Key permanent crops among households in Makueni include mangoes, avocado and citrus.

Table 3.3: Distribution of Households Growing Permanent Crops by Type and County

County	Coffee	Avocado	Citrus	Mango	Macadamia
Makueni	3,371	34,107	27,006	70,130	4,293
Kenya	478,936	966,976	177,445	796,867	195,999

Source: 2019 Kenya Population and Housing Census

Resource productivity is another key important factor in determining the agro-processing potential (scale) of the County and would have a great impact on farmers' incomes and the County's GCP. An assessment of horticultural productivity indicates Makueni's value of fruits production in 2019 amounted to Ksh 7.4 billion. The area under fruit was 44,148 Ha with a production of 900,168,791 MT. The major fruits grown in order of value importance are; Mango, Oranges, Banana, Avocado, Pawpaw and Watermelons.

Table 3.4: Fruits grown in Makueni County

Type of Fruit	Area in Ha	Production in Tons	Value in Shillings
Mango	35,268	867,427,773	5,534,904,335
Oranges	2,296	20,158	594,280,018
Banana	667	6,112	328,500,035
Avocado	636	4,173	315,575,000
Pawpaw	1,108	9,005	250,750,032
Watermelons	2,589	22,544,329	119,700,074
Macadamia Nuts	220	923	93,500,000
Tangerines	271	2,003	61,321,003
Purple Passion	91	387	16,602,004
Guavas	41	820	16,400,000
Grapefruits	60	1,200	12,000,000
Lemons	120	1,004	10,830,004
Sweet Melon	705	10,150,057	9,600,028
Lime	42	302	6,791,002
Tree Tomato	12	240	4,800,000
Custard Apple	6	150	3,000,000
Loquats	11	125	2,475,000
Yellow Passion	5	30	680,079
TOTAL	44,148	900,168,791	7,381,708,614

Source: Agriculture and Food Authority (2019)

In 2019, the value of vegetables production in the County amounted to Ksh 8.9 billion. The area under vegetables was 56,740 Ha with a production of 355,311,653MT. The major vegetables grown in order of value importance are; Kales, Cabbage, Tomato, Baby corn And Potato.

Table 3.5: Vegetables grown in Makueni County

Type of Vegetables	Area in HA	Production in Tons	Value in Shillings
Kales	3,030	8,610,953	5,137,975,018
Cabbage	1,486	32,123	801,950,000
Tomato	2,567	44,017,432	666,975,039
Baby Corn	2,475	18,011,600	590,600,035
Potato	169	4,930	488,800,000
French Beans	353	4,000	292,500,000
Cowpea	43,530	244,017,160	288,857,850
Dudhi/Bottle Guard	348	5,220	261,000,000
Egg Plant	627	4,753,099	155,390,018
Spinach	445	1,952,964	63,170,005
Garden Peas	125	1,000	50,000,000
Bell Pepper/Sweet Paper	1,190	29,800,155	30,600,025
Pumpkin Fruit	82	693	20,137,500
Okra	220	4,100,023	3,650,010
Pumpkin Leaves	65	195	2,925,000
Snow Pea	2	40	800,000
African Nightshade	10	30	600,000
Leaf Amaranth	7	21	420,000
Spider Plant	9	15	310,000
Total	56,740	355,311,653	8,856,660,500

Source: Agriculture and Food Authority (2019)

In 2019, the value of Medicinal and Aromatic Crops (MAPs) production in the County amounted to Ksh 37.1 million. The area under MAPSs was 90Ha with a production of 589MT. The major MAPs grown are; Bulb Onion ad Rosemary.

Table 3.6: Medicinal and Aromatic Plants (MAPS) Grown in Makueni County

Type of Medicinal and Aromatic Plants (MAPS)	Area in HA	Production in Tons	Value in Shillings
Bulb Onion	24	240	14,400,000
Rosemary	22	176	10,560,000
Mint	8	80	4,800,000
Corriander	30	75	3,750,000
Stevia	6	18	3,600,000
Total	90	589	37,110,000

Source: Agriculture and Food Authority (2019)

Being an ASAL County, animal production is a key economic activity in Makueni County. Other than rearing the traditional livestock (i.e. goats, cattle, donkeys and sheep), the County has promoted poultry production and bee keeping (apiculture) among farming households in the County. A lower percentage of farming households practice aquaculture.

Table 3.7: Distribution of households rearing livestock and fish by county and sub-county

County/Sub County	Makueni	Kathon-zweni	Kibwezi	Kilungu	Makindu	Makueni	Mbooni East	Mbooni West	Mukaa	Nzau
Indigenous Chicken	133,836	12,254	22,767	8,451	9,635	17,975	15,467	14,219	15,604	17,464
Goats	118,982	12,320	23,851	5,833	9,872	14,213	14,226	10,244	13,402	15,021
Indigenous cattle	96,923	8,860	15,179	5,694	5,562	13,900	12,220	9,220	12,962	13,326
Donkeys	30,697	7,244	2,515	559	996	4,645	7,193	747	1,925	4,873
Sheep	27,988	2,296	5,902	1,265	2,669	2,339	1,627	2,011	5,285	4,594
Beehives	12,302	1,936	2,752	547	1,343	1,425	1,446	453	897	1,503
Exotic cattle -Dairy	9,659	609	708	1,121	295	1,544	1,128	1,890	1,095	1,269
Exotic Chicken Layers	4,986	196	717	505	343	570	976	744	341	594
Rabbits	3,675	96	247	562	128	803	312	563	488	476
Exotic cattle -Beef	3,192	180	434	225	197	523	578	351	266	438
Exotic Chicken Broilers	2,755	125	355	270	326	258	501	469	200	251
Fish Ponds	324	21	61	23	21	62	29	27	34	46
Pigs	129	10	20	4	9	23	12	6	22	23
Camels	73	7	8	11	12	10	4	3	5	13
Fish Cages	66	6	16	2	2	21	5	4	1	9

Source: 2019 Kenya Population and Housing Census

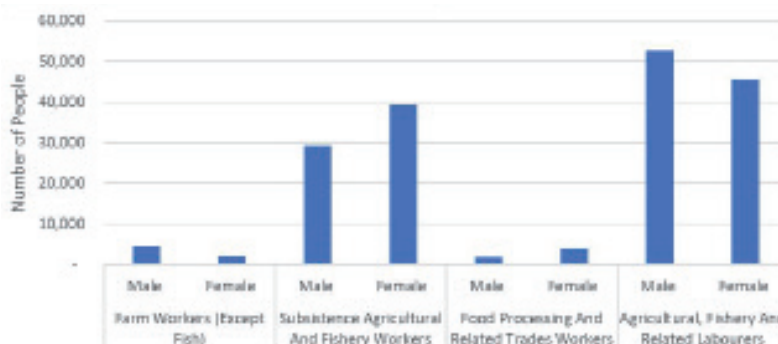
The above characterization of farming households highlights the priority value chain opportunities in maize, beans, green grams, bananas, cassava, sorghum, kales and sweet potatoes, mangoes, avocado and citrus, watermelons, goats, cattle, donkeys, sheep, poultry production and bee keeping (apiculture). With majority of the households farming the identified products, the current Makueni transformation strategy in agriculture should prioritize value chains in the identified areas to positively impact of households' livelihoods.

Agri-Food Challenges in COVID-19

i) Human capital/employment levels – by gender

Agricultural labor participation in Makueni indicates relative parity between females and males with no strong dominance of either gender in the labor force. Majority of the population in Makueni are agricultural, fishery and related labourers where the group covers: Farmhands and Related Labourers; Forestry Labourers; and Fishery, Hunting and Trapping Labourers. The classifications are based on the Kenya National Occupational Classification Standard (KNOCS).

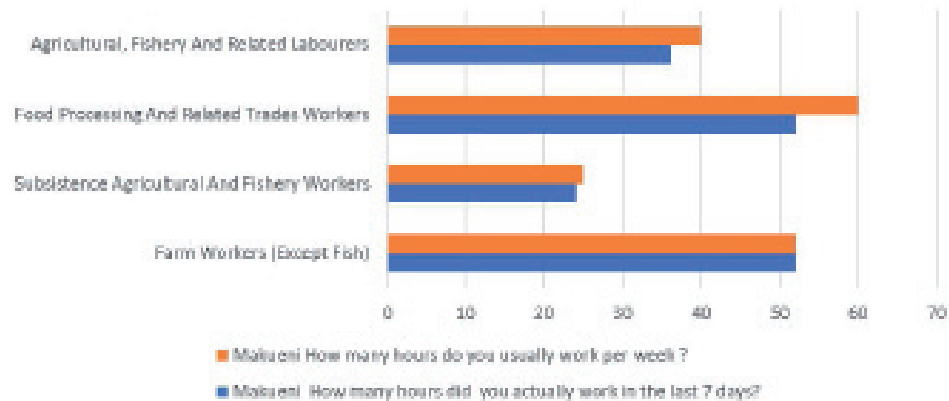
Figure 3.2: Agriculture related labour force participation



Source: KNBS Survey on Socio Economic Impact of COVID-19 on Households-Wave 2

An assessment of the COVID-19 effects on hours worked by in agriculture related occupations indicates workers in majority of the identified sub-sectors worked fewer hours in the reference period as compared with the usual hours worked per week. The most affected workers are the food processing and related trades workers who recorded the highest difference of 8 hours between the usual and actual hours worked in a week. The occupations related to this sub-major group include Butchers, Fishmongers and Related Food Preparers; Bakers, Pastry-cooks and Confectionery Makers; Dairy Products Makers; Fruit, Nut and Related Preservers; Tobacco Preparers and Tobacco Products Makers; Food and Beverage Tasters; Brewers, Distillers and Related Workers and Other Food Processing and Related Workers.

Figure 3.3: Changes in hours worked by in agriculture related occupations



Source: KNBS Survey on Socio Economic Impact of COVID-19 on Households-Wave 2

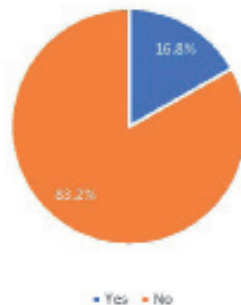
The identified COVID-19 effects on labour force participation are likely to have negative effects on output thereby increasing yield gaps.

ii) Market operations

Successful transformation of smallholder agricultural production in Makueni County from subsistence to an innovative, commercially oriented and modern agricultural sector, as aspired in the national ASTGS, is dependent on the ability of the County market its commodities both in domestic, regional and international markets.

As a result of COVID-19, there has been a slow down on trade activities due to the restrictions on movements. From the KNBS survey conducted between 30th May and 6th June 2020, 16.8 per cent of the households in Makueni County indicated over the past 1 week there had been instances where the household or a member of the household could not access the markets/grocery stores to purchase food items

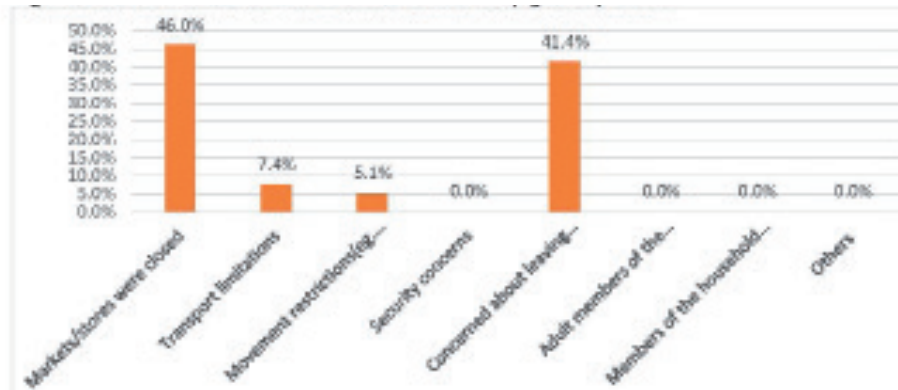
Figure 3.4: Limited access to markets to purchase food items



Source: KNBS Survey on Socio-economic Impact of COVID-19 on Households-Wave 2

Majority of the households indicated the key reasons for not accessing the markets/grocery stores to purchase food items were closure of the markets/grocery stores (46 per cent) and concerns about leaving the house due to the outbreak (41.4%).

Figure 3.5: Reason for limited access to markets/ grocery stores

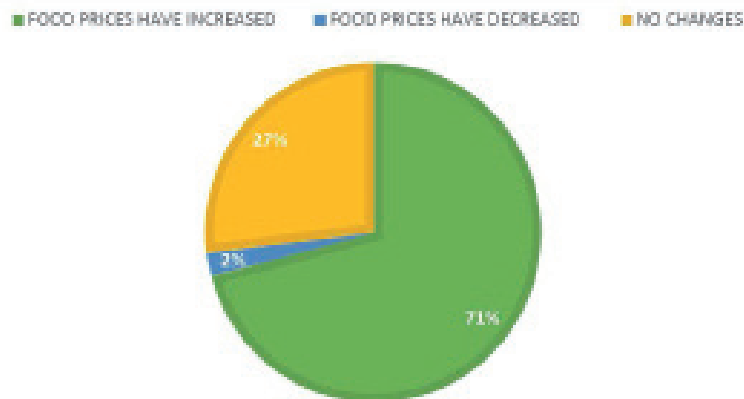


Source: KNBS Survey on Socio Economic Impact of COVID-19 on Households-Wave 2

Livestock trade has especially been majorly affected as traders are unable to take the livestock to the market.

Restrictions affecting seamless movement of food commodities are likely to cause a hike in prices in non-production areas and fall in prices in production areas. 71 per cent of households in Makueni County indicated that food prices had increased over the past 2 weeks from the reference period, while 27 per cent indicated that they had not experienced a change in the prices.

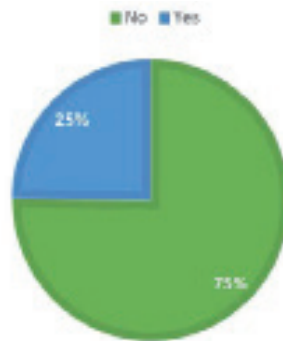
Figure 3.6: Percentage of households experiencing change in food commodity prices



Source: KNBS Survey on Socio-economic Impact of COVID-19 on Households-Wave 2

On the magnitude of the price shocks, 25 per cent of the households indicated they faced a large rise in food prices in the past two weeks from the reference period.

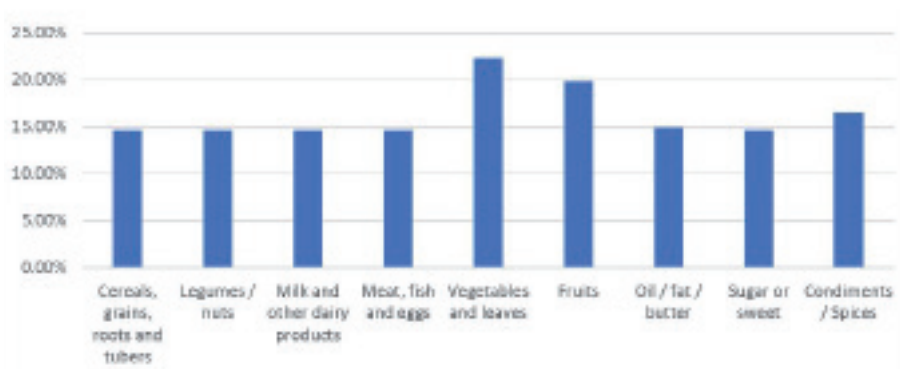
Figure 3.7: Proportion of households facing large food price shocks



Source: KNBS Survey on Socio-economic Impact of COVID-19 on Households-Wave 2

Poor access to markets also hinders the ability to supply food to the population as shown in the below table.

Figure 3.8: Per cent households reporting that the following food items were not readily available in their locality

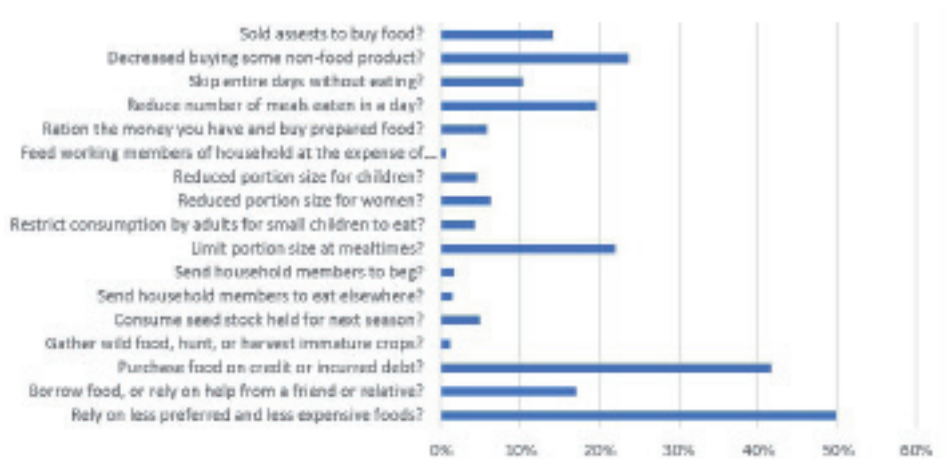


Source: KNBS Survey on Socio Economic Impact of COVID-19 on Households-Wave 2

A key concern is that the food groups affected most are the nutritious food categories-vegetables and fruits-which are necessary for boosting the immune system of the population.

Among the key strategies adopted by households to mitigate COVID-19 effects on food consumption include relying on less preferred and less expensive foods (49.9%), purchase food on credit or incurred debt (41.7%), decreased buying some non-food products (23.6%), limit portion size at mealtimes (22%), and reduce number of meals eaten in a day (19.6%).

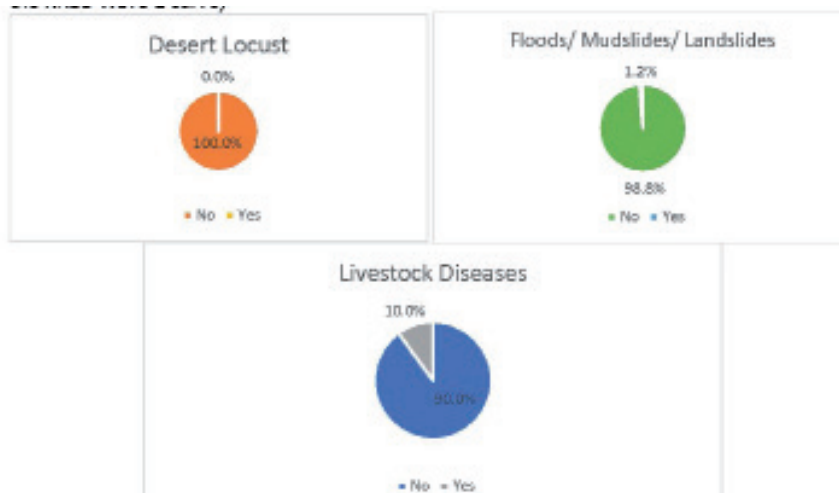
Figure 3.9: Per cent of households where the following strategies were adopted for at least one day



Source: KNBS Survey on Socio Economic Impact of COVID-19 on Households-Wave 2

Additional challenges faced by the count, albeit some at low levels while others significant, include: Desert locusts (0%); Floods/ Mudslides/ Landslides (1.2per cent); and Livestock Diseases (10%).

Figure 3.10: Percentage of households who experienced the below shocks in the past two weeks the KNBS Wave 2 survey



Source: KNBS Survey on Socio-economic Impact of COVID-19 on Households-Wave 2

Agri-Food Constraints Faced in the County

Among the Key Constraints the County faces include:

- a) Water scarcity affecting farm and livestock productivity

- b) Variable and extreme weather events which have increased in frequency and intensity over the years adversely affecting livestock and crop production
- c) Dependence of rain fed agriculture despite frequency in extreme climate conditions, such as drought episodes and delayed and erratic rains
- d) Low access to major off-farm services including extension, climate and market information, and credit services.
- e) Pests and livestock diseases affecting agricultural and livestock productivity.
- f) Farmers low access to quality and affordable inputs including certified seeds, water, animal feeds, artificial insemination (AI) services, fertilizers, livestock vaccination and mechanized ploughing services by County tractor hire services
- g) Inadequate finances and efficient marketing opportunities necessary for improved incomes
- h) Low commercialization of farming where majority of farmers practice farming for subsistence purposes and as a hobby rather than a business. One way is through adoption of high value cash crops and enhanced market linkages.
- i) Farmers resource constraints hindering their uptake of modern and sustainable farming practices.
- j) Low adoption of high value crops that would increase farmers returns
- k) Low agro-processing and value addition opportunities among small scale farmers
- l) Slow uptake of digital platforms to market agricultural produce.
- m) Farm losses and post-harvest waste.

The above challenges combined will lead to the overall impact of reducing farm output, farmer incomes and increasing the vulnerability of households to food insecurity and climate variability particularly drought episodes.

3.2 Opportunities with COVID-19 in agriculture sector

An assessment of the sector linkages to other sectors highlights that the sector is enabled by:

- **Businesses/ MSMEs:** Businesses and MSMEs are crucial in providing inputs and requirements to the agricultural sector. The sector would facilitate the efficient access to
 - Transport, Storage and ICT sectors
 - Financial and insurance activities
 - Accommodation Food services
- **Manufacturing:** The manufacturing sector plays a crucial role in agro-processing. Agricultural inputs also contribute to the processing of other manufacturing commodities

The County has opportunities in:

- a) Developing County-private partnership in enhancing agro-processing and value addition and Linking farmers to product markets
- b) Expand/ exploit innovative marketing opportunities for farmers produce including uptake of innovative marketing platforms so that farmers are not exploited by middlemen.
- c) Strengthening farmers' associations and cooperatives as an additional solution to marketing challenges
- d) Scaling up conservation agriculture, post-harvest management, planting drought-tolerant and early maturing varieties, and agro-forestry.
- e) Enhanced water harvesting, sustainable and efficient irrigation.
- f) Increased livestock production through: - routine vaccination, deworming and vector control to maintain animal health; decentralized veterinary services; improved disease surveillance; storing and conserving pastures and fodder; capacity building on animal management and training on preservation and value addition techniques.
- g) Investment in Storage and cooling facilities
- h) Adoption of natural resource management to include soil and water conservation, tree planting, and changing of crop type.
- i) Boosting agricultural productivity by strengthening farmers access to input supply such as certified seeds and fertilizer, vaccination, pesticides, and herbicides, and animal feeds
- j) Improved crop and livestock emergencies surveillance systems in the County.
- k) Enhance supportive services to include early-warning systems, insurance and credit products, extension advisory and information services through extension and training, fodder conservation and value addition.
- l) Adoption of drought resistant livestock pastures/fodder and crops and also fodder and feed conservation
- m) Enhancing farmers technical and resource capacities to act on agricultural advisory information received

3.3 Emerging Issues

- i) Environmental degradation has reduced productive capacity of farms leading to increased risks to food insecurity and reduced farmers income.
- ii) Climate change, manifested in increased frequency and intensity of extreme weather conditions such as floods, droughts and pest invasion

3.4 Recommendations

To successfully build resilience and enhance growth of the agriculture sector, the County to:

- i) **Adopt Modern technology:** Support of farmers to uptake of digital technologies to support: - training and building capacities of farming households in modern agricultural technologies, provision of advisory and information services, marketing agricultural produce at a wider scope beyond the County level and improving access to innovative support services including credit and insurance services. Digitization of agricultural operations will complement the County's goal in the CIDP to enhance the livelihoods through agriculture by reaching every ward and every village thus supporting farmers and ensuring their produce reaches the market. Digitization will particularly support the County's program on extension services and create a platform for the farmers to connect with experts to get feedback on issues such as marketing, branding and issues concerning veterinary services.
- ii) **Provide subsidized inputs by developing/strengthening partnership with the National Government, NGOs, Research Institutions and the Private sector in provision of subsidized inputs.** Access to quality and affordable inputs including certified seeds, water, animal feeds, artificial insemination services, fertilizers, livestock vaccination and ploughing services by County tractor hire services is important. This will reduce the cost of production, ensure high productivity and improve competitiveness of the farm produce.
- iii) **Develop partnership with the National Government, NGOs, Research Institutions and the Private sector in:** - establishing, upgrading, and reviving agro-processing plants/industries particularly in horticulture, poultry and grain processing plants; construction of abattoirs; and construction of meat and leather processing plants; storage and cooling facilities; construction of multi-purpose dams and roads. This will enable the agriculture sector to develop and grow due to an enhanced and efficient value chain.
- iv) **Enhance market access and product development by linking farmers to product markets beyond the County level for instance, through formation and strengthening of existing cooperatives like the mango cooperative.** This allows for production in economies of scale and access to wider markets both locally and internationally. Trading through cooperatives/factories offers crucial interventions/information's for the farmers starting with standards and market requirements for different markets.
- v) **Establish programmes for surveillance of disasters such as extreme weather conditions, crop pest and diseases, and livestock disease at the County level equipped with relevant technical specialists and finances to effectively prepare, respond and prevent risks.** There is also need for the County to mitigate disasters, such as those related to floods, through institutional capacity development, vulnerability analyses and updates, monitoring and early warning systems, and public education.

- vi) Enhance multi-sectoral approach with establishment of County multisectoral committees to deal with cross-cutting issues such as marketing of agricultural produce that cuts across the trade, ICT and infrastructure sectors. For instance, enhanced County's infrastructure, to include upgrading of the road infrastructure (e.g., upgrade of 2,000km of rural roads) and development of urban centers and markets (such as lighting, access roads to markets and water facilities) as envisioned in the 2018-2022 CIDP strategy are likely to spur market activity and economic growth of the agricultural sector.

4 Water, Sanitation, and Hygiene

4.1 Characteristics of the Sector

Makueni County is generally dry and faced with acute water shortage that has a direct impact on its economic development. It is estimated that the average distance to a water point is currently 5 kilometers. This is attributed to periodic cyclical droughts and shrinking water sources due to encroachment and degradation of water watersheds/ towers, uncontrolled sand harvesting and limited awareness on water harvesting and management among the populace.

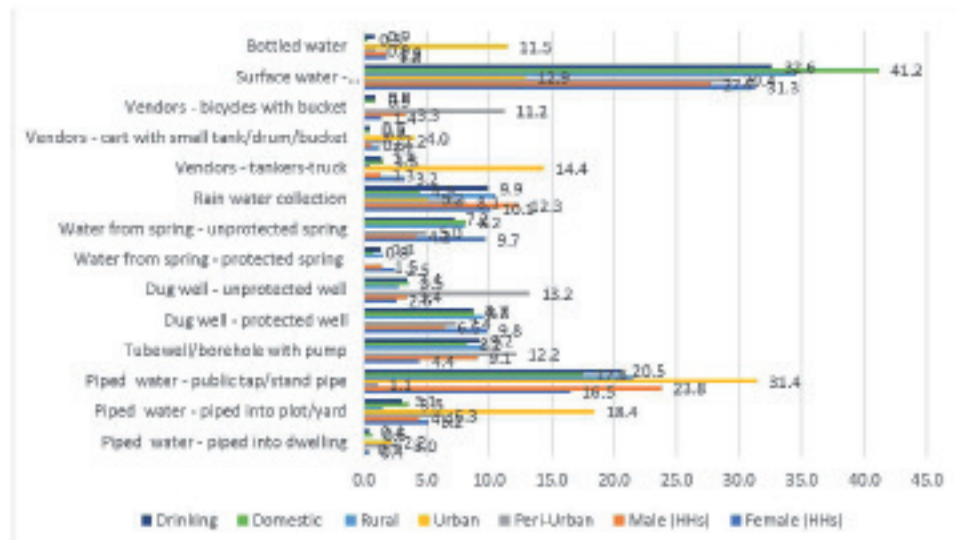
The main sources of water include seasonal and permanent rivers, springs, boreholes, wells and dams. The county permanent rivers and major seasonal rivers include- Athi, Thwake, Kambu and Kiboko Tawa, Makindu, Muuoni, Kaiti, Usi Unene and Kasikeu.

The current water production is at 14,489.911m³/day against a demand of 40,794.39m³/day leaving a water deficit of 26,304.47 m³/ day. This translates to a water coverage of 35.6 per cent against national water coverage of 52 per cent

Access to source of water by households

The major source of water for drinking utilized by households in the county is surface water (river/stream/pond/dam/lake) (32.6%), piped water (public tap/standpipe) (20.5%), rainwater collection (9.9%), piped water into plot/yard (3.1%) and tubewell/ borehole with pump (9.7 per cent). The major source of water for rural (34.6 per cent) is surface water, while urban population (31.4%) use piped water (public tap/standpipe). On the other hand, households in peri-urban (29.4%) obtain their drinking water from surface (river/stream/pond/dam/lake/canal). Similarly, the major source of water for other domestic uses in the County is surface water at 41.2 per cent.

Figure 4.1: Access to water by households

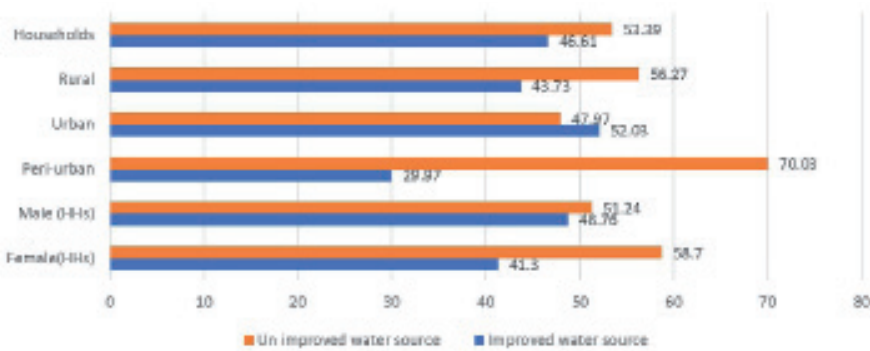


Source: KNBS 2015/2016

Access to sources of water by households (improved and unimproved sources)

Clean and safe water is essential for good health and goes a long way in ensuring reduced infections. Access to improved drinking water² among households (46.6%) as well as those in rural areas (43.7%) is low compared to those urban households (52.03%). Similarly, both male and female headed households have access to improved sources of water as shown in the figure below.

Figure 4.2: Access to improved and unimproved sources of water by households



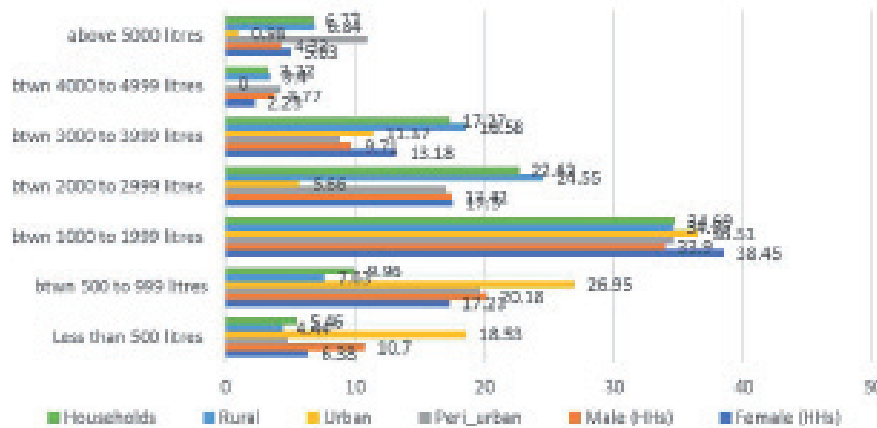
Source: KNBS 2015/2016

² Improved sources of water include; water from the following sources Piped water - piped into dwelling, Piped water - piped into plot/yard, Piped water - public tap/stand pipe, Tubewell/borehole with pump, Dug well - protected well, Dug well - unprotected well, Water from spring - protected spring). Unimproved sources of water which include; Water from spring - unprotected spring, Rain water collection, Vendors - tankers-truck, Vendors - cart with small tank/drum/bucket, Vendors-bicycles with bucket, Surface water river/streams/pond/dam/lake/cannal/irrigation channel Bottled water. This is according to WHO and UN classification of sources of water

Volumes for water used by households in a month

Most households (36.5%), rural (34.6%), urban (36.5%) and peri-urban (34.6%) use between 1,000 and 1,999 litres of water per month. Additionally, majority of male-headed households use between 1,000 and 1,999 litres of water per month at 33.9 per cent while female-headed households use between 1000 to 1999 litres of water per month at 38.45 per cent.

Figure 4.3: Volumes of water used by households in a month

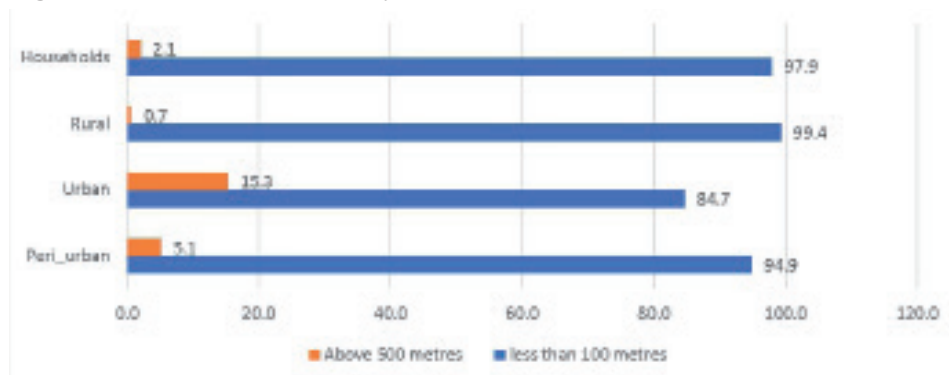


Source: KNBS 2015/2016

Distance covered to water source and average time spend to and from the water source

Majority of the households (97.9 per cent) both rural (99.4 per cent), urban (84.7 per cent) and peri-urban (94.9 per cent) covers less than 100 metres to water sources meaning they have water within their premises or close to their compounds. Only a small portion of households (2.06 per cent) covers more than 500 metres to water sources.

Figure 4.4: Distance covered by households to and from water sources



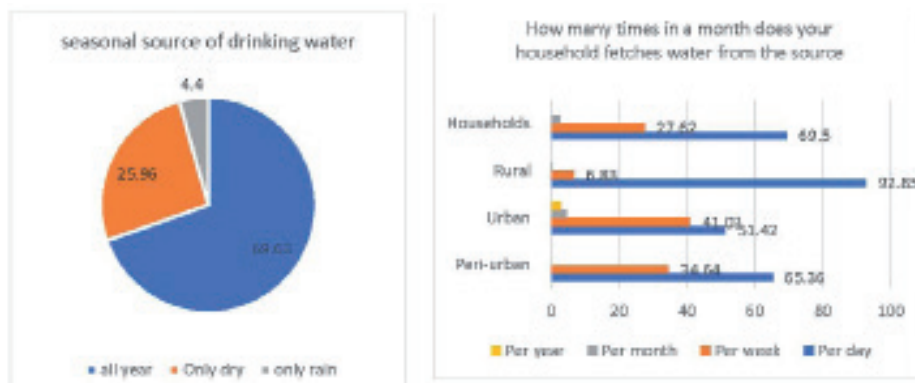
Source: KNBS 2015/2016

If water is available to households, schools, health institutions within the shortest distances possible, it easily encourages observing hand hygiene thus minimizing infections. In learning institutions, it minimizes rates of school dropouts among girls. Women headed households are disadvantaged in access to drinking water within shortest distances and this may make them vulnerable to contracting COVID-19 as well as other infectious diseases. To support hand hygiene among households there is need to have water supply closer to households headed by women.

Access and reliability of water sources

Majority of households in the county relies on water from rivers. Majority of households in rural (92.9%) urban (51.4 per cent) and peri-urban (65.4%) must go to fetch drinking water from the sources per day. It also implies that households may not be having water storage facilities that can minimize number of trips to water points in a day, therefore they may be at risk of water shortages during dry months.

Figure 4.5: Access and reliability to water sources by households



Source: KNBS 2015/2016

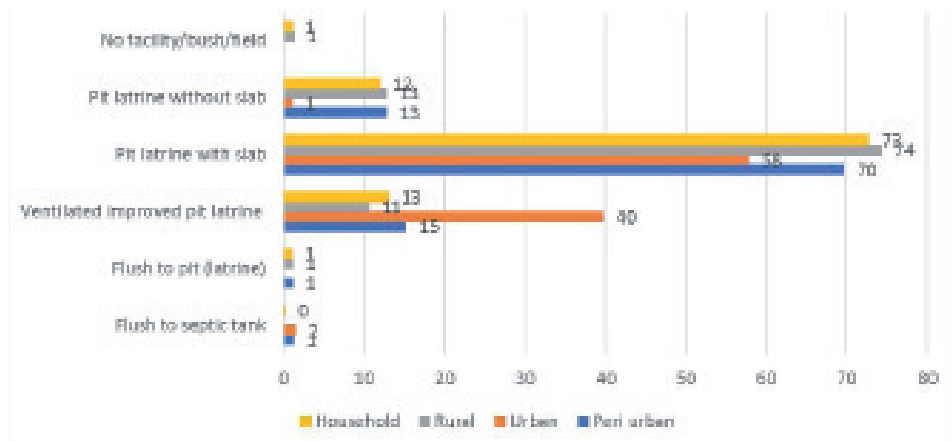
Source: KNBS 2015/2016

Top interventions are protection of the existing major water sources for households and development of new water sources, this may include rainwater harvesting at individual and institutional level. Protection of water catchment areas.

Access to sanitation

Majority of the households (73%) rural (74%) urban (58%) and peri-urban (78%) uses pit latrine with slab.

Figure 4.6: Access to sanitation by households

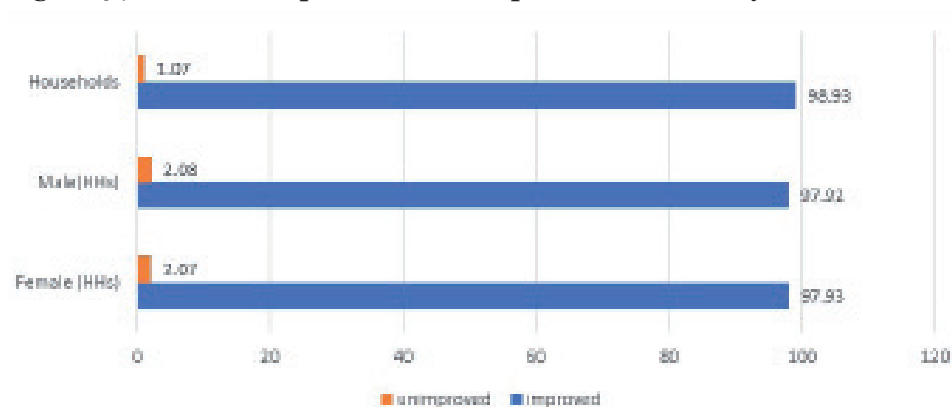


Source: KNBS 2015/2016

Access to improved and unimproved sanitation

Majority of the households (98.9%) male (97.2%) and female (97.9%) headed households have access to access to improved sanitation facilities. Access to improved sanitation is very important in maintaining hygiene and keeping infectious diseases away, good sanitation can help to detect the genetic residues of diseases in wastewater as those who are infected are thought to shed traces of the virus in faeces thus prompting for immediate action from the health officials.

Figure 4.7: Access to improved and unimproved sanitation by households



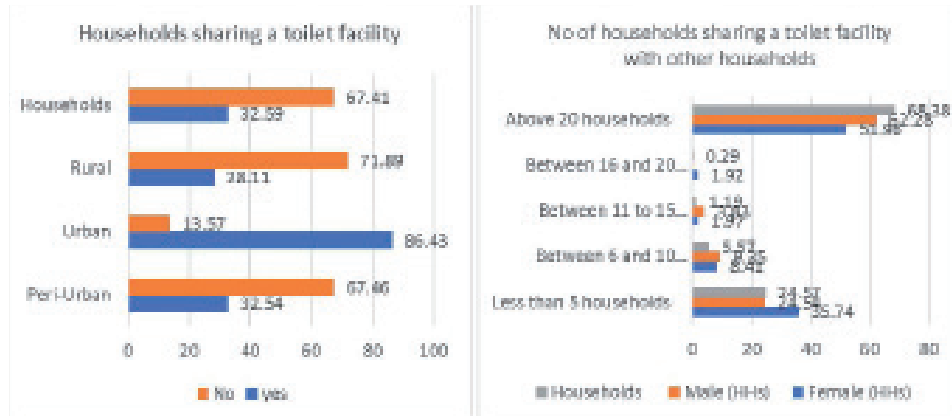
Source: KNBS 2015/2016

Sharing of a toilet facility

Additionally, most of the households (32.6%) do share a toilet facility with other households, this is more in urban (86.4%) compared to rural (71.9%) do not share a toilet facility. On the other hand, there are large proportions of households (68.4%) who share a toilet facility with 20 other households, this is more in male (62.3%) than in female (52%)

headed households. Only a small proportion of households (24.6%) do share a toilet facility with less than 5 other households.

Figure 4.8: Number of households sharing a toilet facility



Source: KNBS 2015/2016

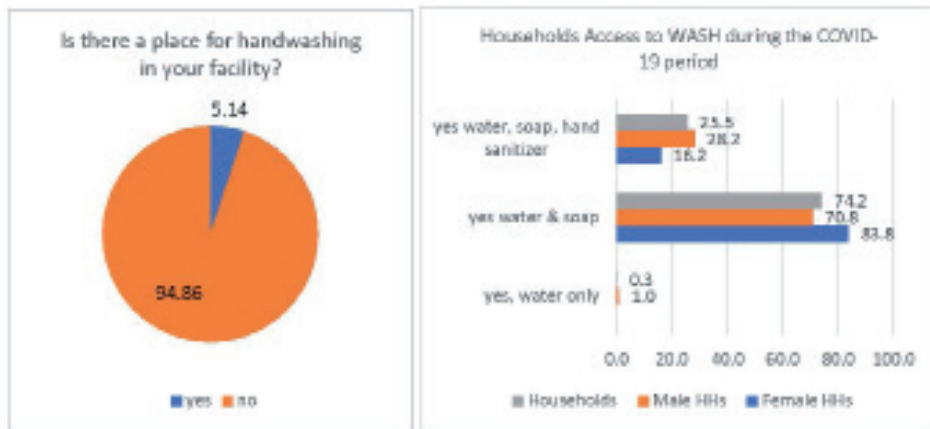
Source: KNBS 2015/2016

Sharing of toilet facilities with large number of households puts individuals at risk of contracting COVID-19, and other infectious diseases in cases where proper hygiene is not maintained as well as social distancing measures. Similarly, WHO guidelines require separate sanitation facilities for suspected COVID-19 cases which households may not be able to achieve.

Access to WASH during the COVID-19 period

WASH has been identified very important in helping to curb transmission of infectious diseases. Despite this majority of the households (94.86%) in the County, do not have a handwashing facility in their households. On the other hand, most of the households (74.2%) have access to WASH (Water and soap) during this period of COVID-19, male headed households at 70.8 per cent and female headed households at 83.8 per cent. Additional 25.5 per cent of the households have access to both water, soap and hand sanitizer, male-headed households 28.2 per cent and female-headed households at 16.2 per cent.

Figure 4.9: Access to wash during the COVID-19 period



Source: KNBS 2015/2016

Source: KNBS COVID-19 Wave II, 2020

More of hand washing should be emphasized especially to those who are not observing hand hygiene to help decrease the spread of the virus, this should be facilitated by provision of water, soap/hand sanitizer to households.

4.2 Opportunities with COVID-19 in WASH

COVID-19 has highlighted the need to maintain a clean safe water, proper sanitation and hand hygiene which places more demand on water and therefore the county needs to leverage on lessons learned from COVID-19 by improving its water and sanitation coverage.

4.3 Emerging Issues

Water and sanitation coverage remain low in the county with only 17.5 per cent households accessing piped water. This presents an opportunity for the county to increase water coverage to increase its additional revenue collection from water and sanitation through water licensing and billing.

4.4 Recommendations

The recovery strategy recommends the following strategies for implementation

- i) The county to increase piped water supply in households, institutions and public places through drilling of boreholes in all the sub-counties. Currently, water production by county is at 14,489.911m³/day against a demand of 40,794.39m³/day leaving a water deficit of 26,304.47 m³/ day. This translates to a water coverage of 35.6 per cent against national water coverage of 52 per cent³. The supply is also likely to diminish in times of reduced rains and droughts thus leading to insufficient

³ Makueni County 2018-2022 CIDP

water supply in households, making households unable to observe hand hygiene. To increase access to water the county government can collaborate with private sector, donor agencies, local communities and NGOs to help develop water infrastructure.

- ii) The county to upscale the construction of water pans and dams as well as round water, since the county is water insufficient in order to increase access to water, especially during dry seasons. This will help to increase water supply in households, institutions, and public places.
- iii) The county to upscale abstraction of water from rivers, spring protections, harvesting of rainwater from roof and other catchments to help achieve increased to water access and to reduce distance taken to water sources.
- iv) The county to increase water storage capacity to store harvested water during rainy seasons
- v) The county government to undertake water trucking during times of prolonged drought and water shortages and emergencies to households
- vi) Involve both men and women in water management and governance
- vii) Involve communities in protection of water catchment areas
- viii) Rehabilitate existing water infrastructure to reduce water leakages to reduce water losses.
- ix) The county to implement the policy on water harvesting
- x) Implement the county water master plan
- xi) Establish water supply monitoring system for efficiency water supply and management.
- xii) Expand and rehabilitate the existing piped water connection infrastructure to help increase access to clean safe water. There is low access to piped water which stands at 11.4 per cent rural, 17.3 per cent urban, 4.6 per cent peri-urban. This means low revenue from piped water for the county government.
- xiii) The county government to undertake water treatment such as chlorination of water sources through provision of chlorination tablets across the county. Currently access to improved sources of water⁴ is below average which stands at 43.7 per cent rural, 52 per cent urban and 29.9 per cent for peri-urban. This implies most households have low access to clean and safe water that is likely to compromise their health standard. Improved source of water can be achieved through piped water system. This can be achieved through county collaboration with the private sector, Non-Governmental organization and the local community to expand the water infrastructure.
- xiv) Expand sewer infrastructure to accommodate more households, currently there is low access to piped sewer among households which is less than 3 per cent both in

⁴ Improved sources of water included water from the following sources: Piped water - piped into dwelling, Piped water - piped into plot/yard, Piped water - public tap/stand pipe, Tubewell/borehole with pump, Dug well - protected well, Dug well - unprotected well, Water from spring - protected spring). This is according to WHO and UN classification of sources of water.

rural urban and peri-urban areas. Low connectivity to piped sewer denies the county the much-needed revenue from sanitation services as well as access to safe sanitation.

- xv) Improve access to safe and improved sanitation⁵ in schools, health care facilities, workplaces and public places. Additionally, sharing of a toilet facility with other households is common in the county which stands at 28.1 per cent rural, 86.4 per cent urban and 32.5 per cent peri-urban. Toilet sharing puts households at risk of contracting COVID-19, and other infectious diseases in cases where proper toilet hygiene is not maintained. Increased access to sanitation can be achieved through collaboration between county government, national government, development partners and Public Private Partners to expand sewer infrastructure and to accommodate more households.
- xvi) Support households in building WASH facilities in homes, communities' marketplaces and in public places to help increase access at the handwashing. Currently access to WASH is high among households with majority having access to water and soap at 74.1 per cent. On the other hand, 94.8 per cent of the households do not have a designated handwashing facility in their households. This may compromise hand washing hygiene among households thus making households vulnerable to contracting COVID-19. Increased access to WASH can be achieved through collaboration between County Government, Non-Governmental Organizations, local community and the media
- xvii) The county to organize sensitization forums on the importance of handwashing through the media and in community forums.
- xviii) To increase agricultural productivity the county can develop irrigation infrastructure. Currently only 5.48 per cent of households have used irrigation for farming in the past 12 months, where the main source of water for irrigation is river at 55.93 per cent, water from well 12.30 per cent and water from springs at 12.31 per cent. The county can support irrigation farming by increasing access to water for irrigation. The county can explore the potential of irrigation farming by collaboration with the national government as well as other stakeholders in agriculture.

⁵ Improved sanitation include the following -Flush to piped sewer, flush to septic tank, flush to pit (latrine), flush to somewhere else, flush to unknown place, ventilated improved pit latrine, pit latrine with slab, pit latrine without slab) while access to unimproved sanitation include-Composting toilet, bucket toilet, hanging toilet/hanging, no facility/bush/field, others. This is according to WHO and UN classification of sanitation

5 Manufacturing, Trade and MSMEs

5.1 Characteristic of the sector

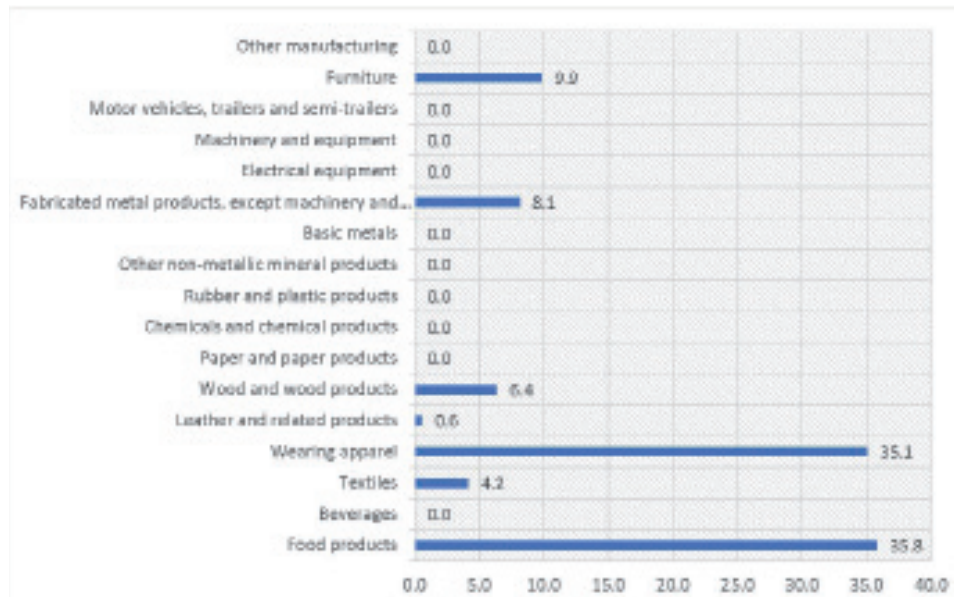
a) Manufacturing sector

Makueni County has 4,228 establishments involved in manufacturing activities, which comprise of 13.8 per cent of a total of 30,547 firms (KNBS, 2016). In terms of sector size, 4,187 (99 per cent) are micro, and 41 (per cent) are small enterprises. The main drivers of the economy of the county include agriculture (47 per cent), services (44 per cent), and manufacturing (0.4 per cent) (GCP, 2019).

Sector of operation

The KNBS, 2016 survey establishes the key sub-sectors that drive manufacturing to include: food products (35.8 per cent), wearing apparel (35.1 per cent), furniture (9.9 per cent), and fabricated metal products, except machinery and equipment (8.1 per cent) (figure 5.1). These are sub-sectors that are considered essential in dealing with COVID-19 are likely to experience increased activity with focus on food production, production of Personal Protective Equipment (PPEs) and hospital beds. Important products driving value addition and the manufacturing activity in Makueni County include mangoes, citrus fruits, passion, avocados, watermelons, cassavas, pixie oranges, sorghum, tomatoes, dengue, dairy, leather, beef, maize and poultry. Other products that can be exploited for value addition include silkworm and cotton processing.

Figure 5.1: Sector of operation in manufacturing

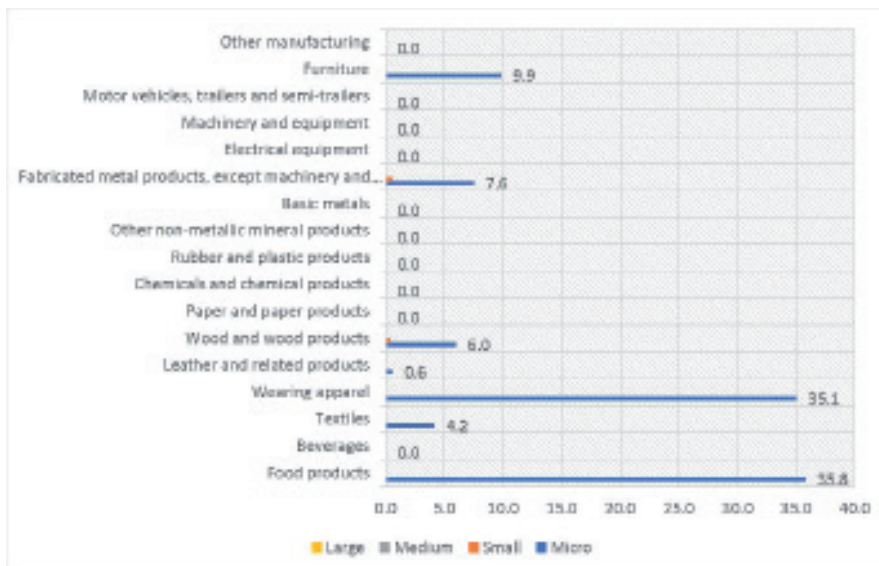


Source: KNBS (2016)

Sector of operation by size

Nearly all the establishments in Makueni County are micro in nature and operate in the food products (35.8 per cent), wearing apparel (35.1 per cent), furniture (9.9 per cent), and fabricated metal products, except machinery and equipment (7.6 per cent) (figure 5.2).

Figure 5.2: Manufacturing firms by sector and size

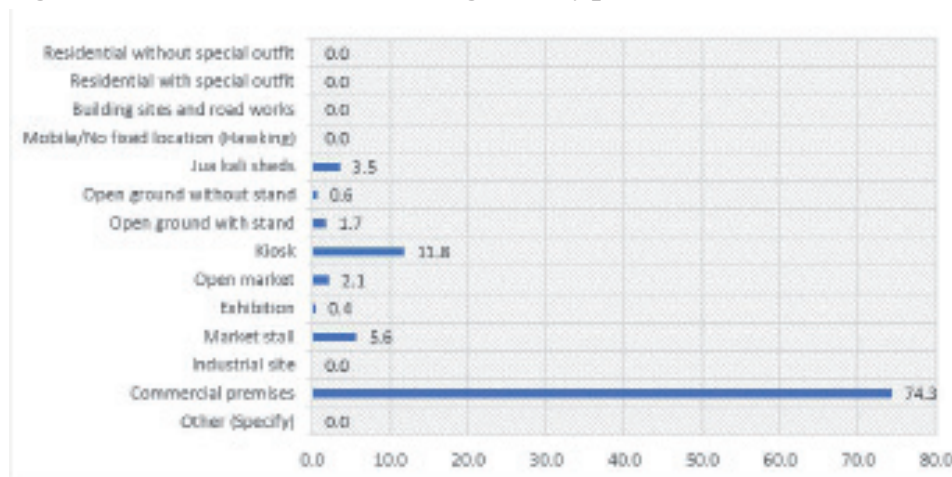


Source: KNBS (2016)

Location of manufacturing firms by type of premises

The most common premises used by firms in manufacturing include commercial premises (74.3%), kiosk (11.8%), market stall (5.6%), and Jua kali sheds (3.5%) (Figure 5.3).

Figure 5.3: Location of manufacturing firms by premises



Source: KNBS (2016)

Distribution of Manufacturing firms by gender and size

Manufacturing enterprises in the County are mainly Male-owned (49.1%), with female owned comprising of 43.3 per cent while 7.5 per cent are jointly owned. In terms of micro-sized firms, 49.2 per cent are male owned, 43.2 per cent female owned and 7.6 per cent jointly owned. Small sized firms are largely female owned (60.1%) while the rest are male owned (39.9%) (Table 5.1).

Table 5.1: Distribution of Manufacturing firms by gender and size - N (per cent)

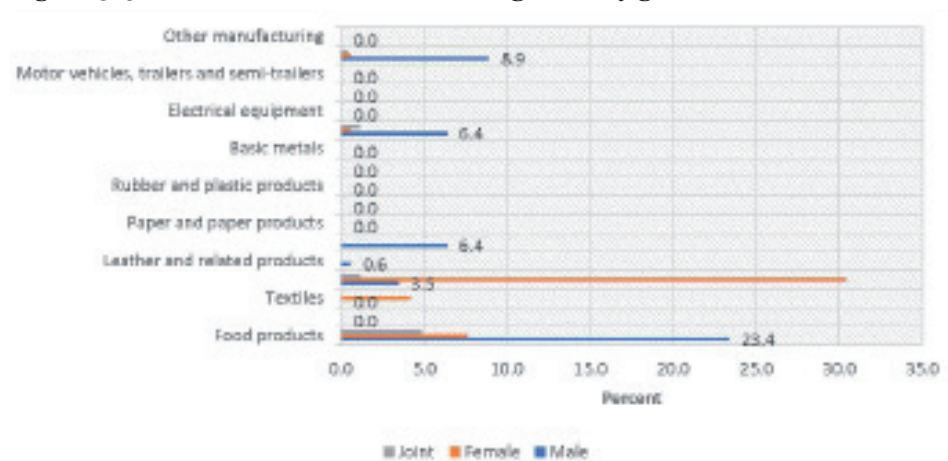
Gender	A11	Micro	Small
Male	2,077 (49.1)	2,061 (49.2)	16 (39.9)
Female	1,833 (43.3)	1,808 (43.2)	25 (60.1)
Joint	319 (7.5)	319 (7.6)	0 (0)
Total	4,228 (100)	4,187 (100)	41 (100)

Source: KNBS (2016)

Distribution of Manufacturing firms by gender and sector

Majority of the sub-sectors in manufacturing are male dominated including food products (23.4%), furniture (8.9%), fabricated metal products except machinery and equipment (6.4%), wood and wood products (6.4%) and wearing apparel (3.5%) (Figure 5.4).

Figure 5.4: Distribution of manufacturing firms by gender and sector



Source: KNBS (2016)

In terms of employment, the manufacturing sector employs more men (67.7%) than women (32.3%). Most men are found in the micro-sized enterprises (61.3%) while 6.4 per cent are in small-sized establishments. Majority of the women are predominantly in the micro enterprises (32%) (Table 5.2).

Table 5.2: Employment by gender and size for manufacturing firms

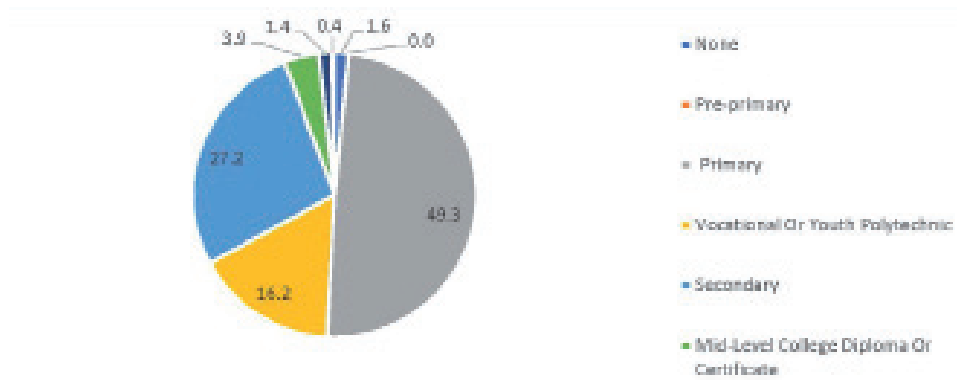
Number of employees	Micro	Small	Total
Male	4,905 (61.3)	516 (6.4)	5,421 (67.7)
Female	2,583 (32)	25 (0.3)	2,583 (32.3)
Total	7,463 (93.2)	540 (6.8)	8,003 (100)

Source: KNBS (2016)

Education levels of Manufacturing firm owners

Education levels of manufacturing owners is highlighted in Figure 5.5: primary (49.3%), secondary (27.2%), vocational and youth polytechnic (16.2%), mid-level college diploma or certificate (3.9%).

Figure 5.5: Education levels of manufacturing firm owners

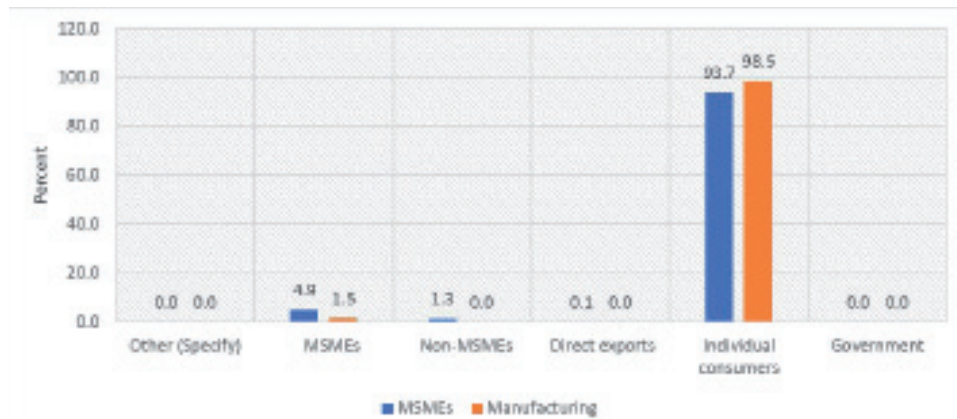


Source: KNBS, 2016

Source of markets

Majority of manufacturing firms and MSMEs in general rely on individual consumers for markets at 98.5 per cent and 93.7 per cent respectively (Figure 5.6). MSMEs are also important sources of the two sectors.

Figure 5.6: Source of markets

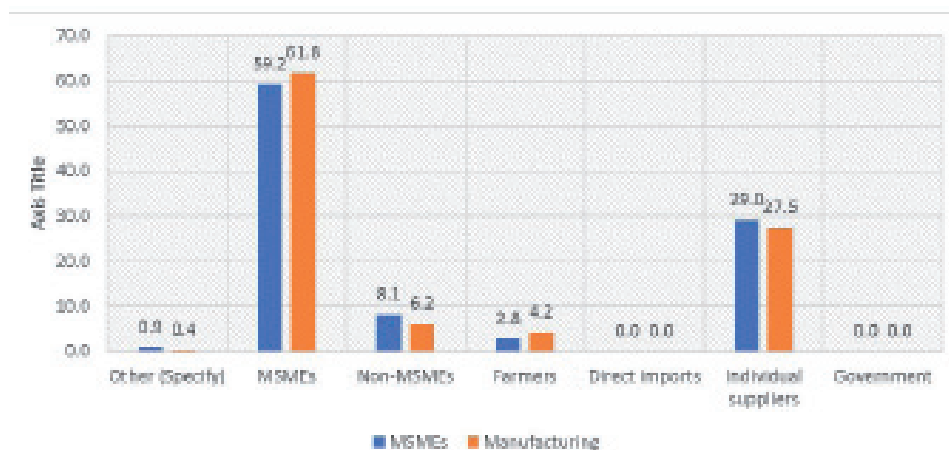


Source: KNBS, 2016.

Source of material inputs

Broadly, manufacturing enterprises source for material inputs from amongst MSMEs at 61.8 per cent while the MSMEs source from other MSMEs at 59.2 per cent (Figure 5.7). Individual suppliers as well as non-MSMEs and farmers are also important to the supply of inputs.

Figure 5.7: Source of material inputs



Source: KNBS (2016)

Level of innovation by firms in Manufacturing

Manufacturing establishments in the County were involved in both product, process and market innovations. All innovations are seen under the micro category: product (7%), process (7.7%), and market (2.9%) (Table 5.3).

Table 5.3: Level of innovation by firms in Manufacturing

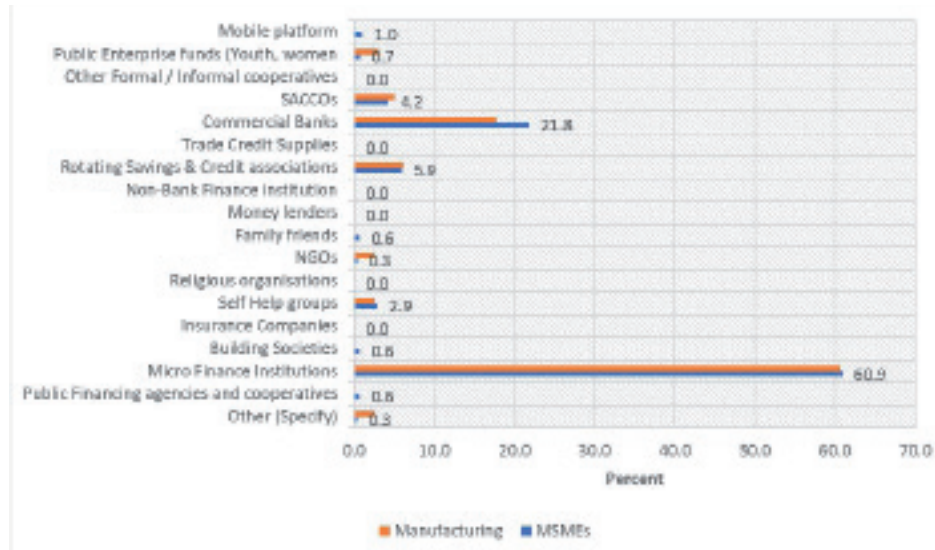
Type of innovation	Micro			Small		Total
	Don't know	No	Yes	No	Yes	
Product	25 (0.6)	3,869 (91.5)	294 (7)	41 (1)	0 (0)	4,228 (100)
Process	25 (0.6)	3,836 (90.7)	327 (7.7)	41 (1)	0 (0)	4,228 (100)
Market	25 (0.6)	4,041 (95.6)	122 (2.9)	41 (1)	0 (0)	4,228 (100)

Source: KNBS (2016)

Access to credit for Manufacturing and MSMEs firms

According to the MSME 2016 survey, 74.8 per cent of MSMEs and 76.8 per cent of those in manufacturing applied for credit. Firms in manufacturing source their credit from micro finance institutions (60.7%), commercial banks (17.7%), rotating savings and credit associations (6.1%) (Figure 5.8). MSMEs get their credit from MFIs (60.9%), commercial banks (21.8%), and rotating savings and credit associations (5.9%).

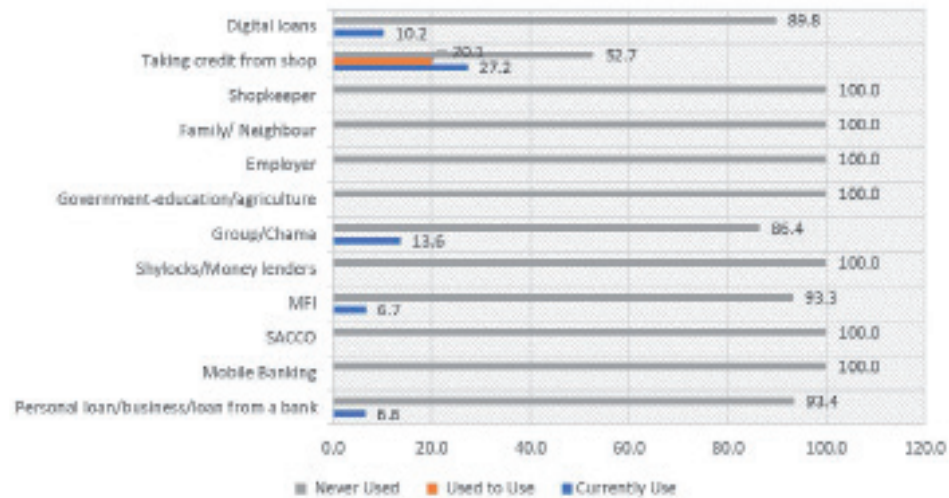
Figure 5.8: Sources of finance



Source: KNBS (2016)

Recent evidence from FinAccess 2019 provides further insights on sources of credit for businesses in the County. Businesses commonly obtain credit from the conventional sources such as shops (27.2%), group/*Chama* (13.6%), and MFI (6.7%). Emerging sources of credit for businesses in the County include digital loans (10.2%) (Figure 5.9).

Figure 5.9: Recent sources of credit

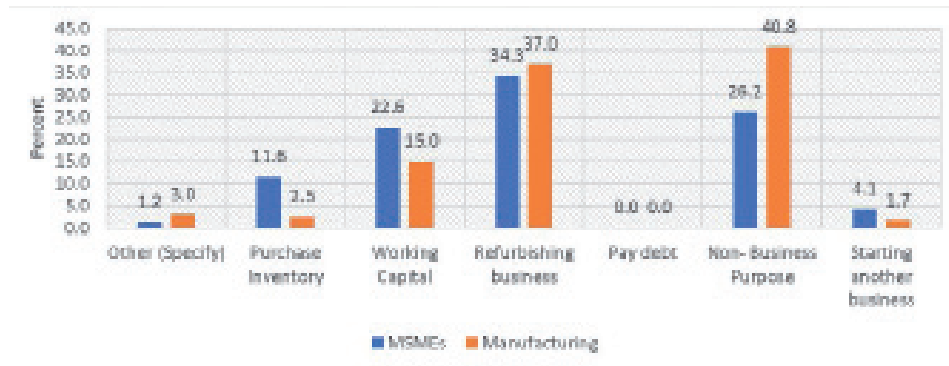


Source: FinAccess (2019)

Purpose of credit

Figure 5.10 presents the main purpose of credit by both MSMEs and establishments in manufacturing. Overall, manufacturing firms require credit for: non-business purpose (40.8%), refurbishing business (37%), working capital (15%), among others. MSMEs in Makueni require credit for refurbishing business (34.3%), non-business purpose (26.2%), and working capital (22.6%).

Figure 5.10: Main purpose of credit

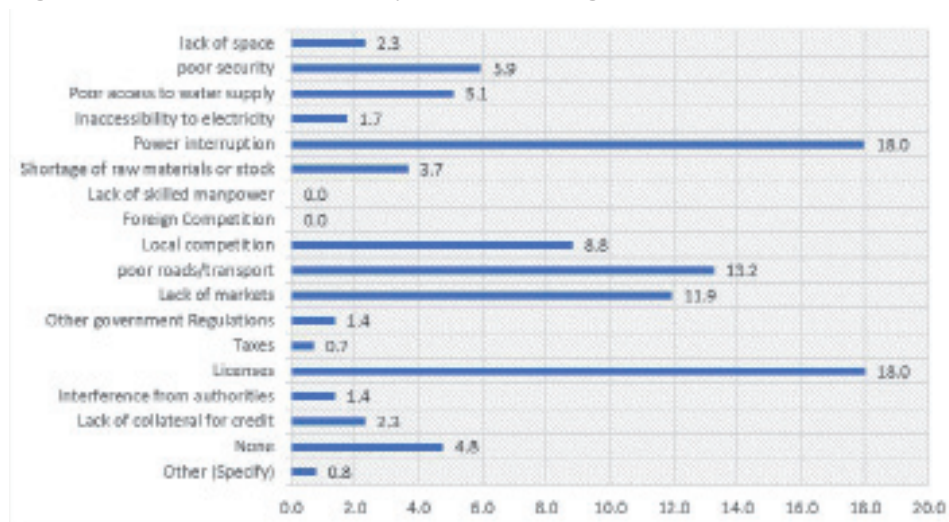


Source: KNBS (2016)

Constraints faced by manufacturing firms

The main constraints faced by manufacturing firms are power interruption (18%), licenses (18%), poor roads/transport (13.2%), lack of markets (11.9%), local competition (8.8%), poor security (5.9%), and poor access to water supply (5.1%) (Figure 5.11).

Figure 5.11: Constraints faced by manufacturing firms

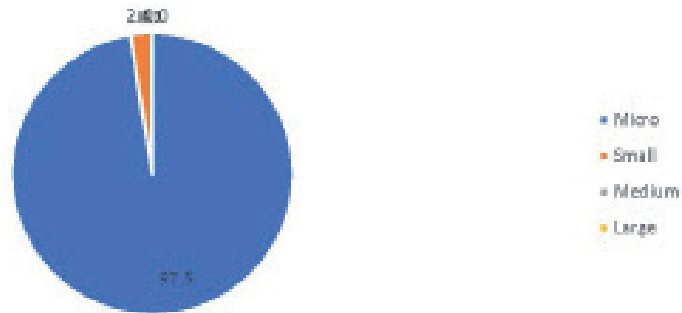


Source: KNBS (2016)

b) Micro Small and Medium Enterprises (MSMEs)

Makueni County has 30,547 establishments⁶ with 29,783 (97.5 per cent) being micro; 731 (2.4 per cent) are small; and 33 (0.1 per cent) are medium enterprises (KNBS, 2016) (figure 5.12).

Figure 5.12: Distribution of MSMEs by size

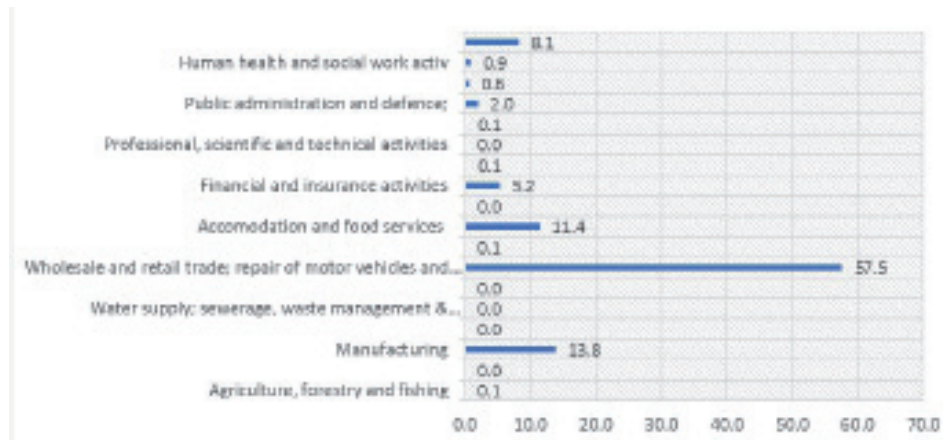


Source: KNBS (2016)

Sector of operation by MSMEs

Majority of MSMEs in Makueni County operate in the wholesale and retail trade, repair of motor vehicles and motorcycles (57.5%); manufacturing (13.8%); accommodation and food services (11.4%); arts, entertainment, and recreation (8.1%); and financial and insurance activities (5.2%) (Figure 5.13). Generally, these are the sectors that have been affected most by the pandemic and need focus in achieving re-engineering and recovery.

Figure 5.13: Sector of operation by MSMEs



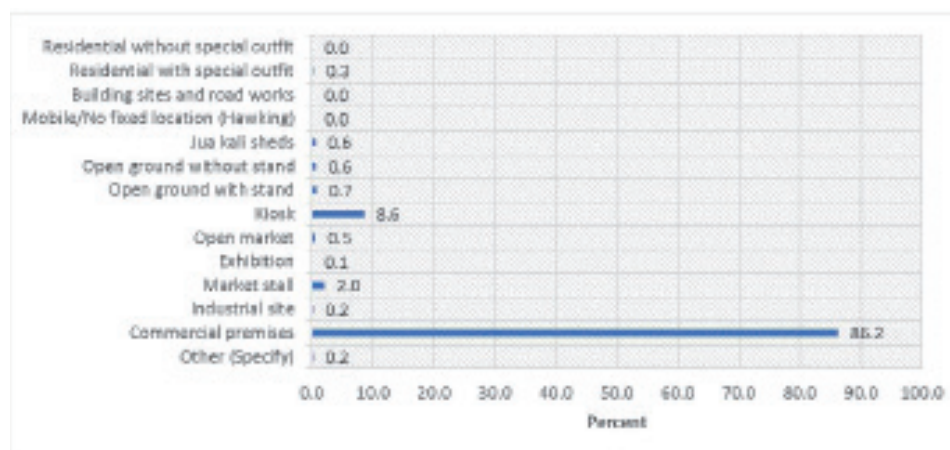
Source: KNBS (2016)

6 After applying weights

Location of the businesses by type of premises

MSMEs in Makueni County are mainly located in commercial premises (86.2%), kiosks (8.6 per cent), and market stalls (2%) (figure 5.14). Majority of the businesses in the County could be having a lot of difficulties in meeting their rental obligations due income disruptions occasioned by COVID-19. According to the May 2020 KNBS COVID-19 survey, 79.6 per cent of the non-farm businesses attributed non-payment of household rental obligations to reduced incomes/earnings while 20.4 per cent attributed the same to delayed incomes/earnings. For those involved in farm businesses, all attributed the same to delayed incomes/earnings.

Figure 5.14: Location of businesses by premises



Source: KNBS (2016)

Distribution of MSMEs by gender and size

Table 5.4 shows the distribution of MSMEs in Makueni County by gender: 43.7 per cent are male owned, 32.1 per cent are female owned, while 24.2 per cent are jointly owned (male/female). For Micro establishments, 43.5 per cent are male owned, 32.5 per cent are female owned, while 24 per cent are jointly owned. Male owners also dominate ownership among small sized establishments at 49.5 per cent, females own 17.2 per cent, and 33.2 per cent are jointly owned. Considering medium sized establishments, ownership is fully controlled by males (100%).

Table 5.4: Distribution of MSMEs by gender and size -N (%)

Gender	A11	Micro	Small	Medium
Male	13,355 (43.7)	12,959 (43.5)	362 (49.5)	33 (100)
Female	9,815 (32.1)	9,689 (32.5)	126 (17.2)	0 (0)
Joint	7,377 (24.2)	7,134 (24)	243 (33.2)	0 (0)
Total	30,547 (100)	29,783 (100)	731 (100)	33 (100)

Source: KNBS (2016)

In terms of employment, the micro sized establishments employ more people (79.7%) compared to small (16.9%), and medium (3.4%) (Table 5.5). Micro firms employ 44.4 per cent male and 35.3 per cent female and small sized employ 9.5 per cent male and 7.4 per cent female. Equally, more men are employed among medium establishments at 2 per cent and while females include 1.4 per cent. Overall, more men (55.9%) are employed by MSMEs in Makueni County than women (44.1%).

Table 5.5: Employment by gender and size - N (%)

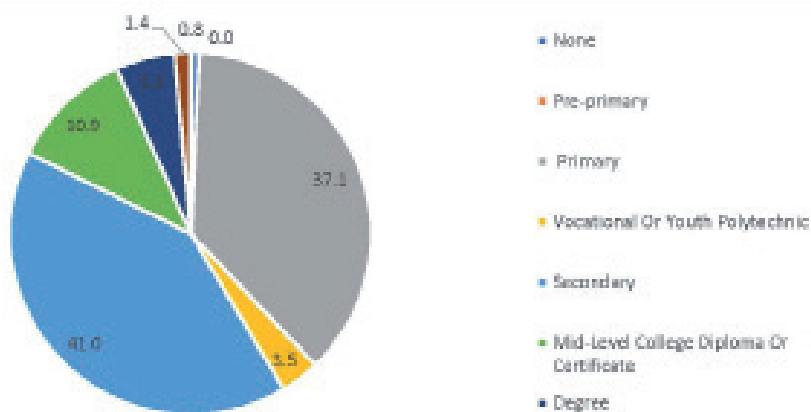
Gender	Micro	Small	Medium	Total
Male	31,555 (44.4)	6,748 (9.5)	1,428 (2)	39,732 (55.9)
Female	25,065 (35.3)	5,286 (7.4)	971 (1.4)	31,322 (44.1)
Total	56,621 (79.7)	12,034 (16.9)	2,399 (3.4)	71,054 (100)

Source: KNBS (2016)

Education levels of MSME owners

Education levels of MSME owners in the County is shown in Figure 5.15: secondary (41%), primary (37.1%), mid-level college diploma or certificate (10.9%), degree (5.3%), and vocational or youth polytechnic (3.5%).

Figure 5.15: Education levels of MSME owners



Source: KNBS (2016)

Level of innovation by MSMEs

Table 5.6 presents the levels of innovation in Makueni County by MSMEs according to size. Generally, there were low levels of innovation across MSMEs with 4.1 per cent involved in product, 1.9 per cent for process, and 1.2 per cent in market innovation for micro-sized enterprises. Regarding small-sized enterprises, 0.4 per cent engaged in product, 0.4 per cent process and 0.2 per cent market innovation. With regards to medium sized enterprises, none were involved in any form of innovation.

Table 5.6: Level of innovation by MSMEs

Type of Innovation	Micro				Small				Medium		Total
	Refused to answer	Don't know	No	Yes	Refused to answer	Don't know	No	Yes	No	Yes	
Product	0 (0)	215 (0.7)	28,264 (92.7)	1,254 (4.1)	0 (0)	0 (0)	601 (2)	130 (0.4)	33 (0.1)	0 (0)	30,498 (100)
Process	0 (0)	254 (0.8)	28,910 (94.8)	569 (1.9)	0 (0)	0 (0)	609 (2)	123 (0.4)	33 (0.1)	0 (0)	30,498 (100)
Market	0 (0)	41 (0.1)	29,341 (96.2)	351 (1.2)	0 (0)	0 (0)	668 (2.2)	63 (0.2)	33 (0.1)	0 (0)	30,498 (100)

Source: KNBS (2016)

E-commerce

Participation in e-commerce by households in Makueni County is below the national average. About 2 per cent of the households participate in online e-commerce which is below a national average of 4.3 per cent (KPHC 2019). In comparison, men participate more in online e-commerce (2.5%) than women (1.6 per cent). With introduction of stay-at-home protocols due to COVID-19 online trade has been expected to thrive, little may be impacted in Makueni County since fewer households participate in the same.

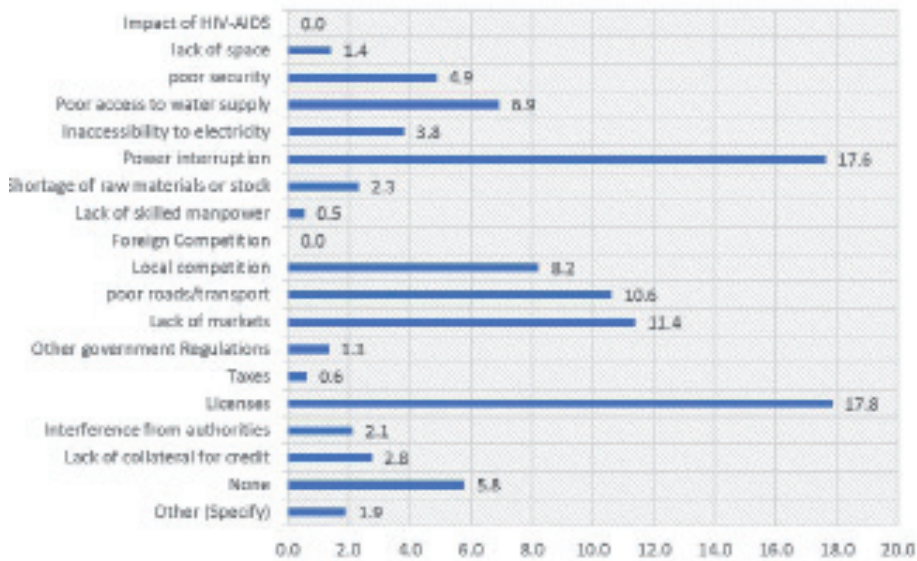
Turnover tax

Only 7.8 per cent of MSMEs in Makueni County (2,384) had a previous monthly turnover of above Ksh 83,333 that translates to Ksh 1 million a year. Ideally, this would be the establishments that are eligible for turnover tax with the new thresholds recently introduced vide the tax laws (Amendment) Act, 2020. The actual impact of this move may be difficult to estimate due to data challenges on actual revenue streams and the number of establishments that comply with the same.

Constraints faced by MSMEs

The following are the main constraints faced by MSMEs in Makueni County: licenses (17.8 per cent), power interruption (17.6%), lack of markets (11.4%), poor roads/transport (10.6%), local competition (8.2%), poor access to water supply (6.9%), and poor security (4.9%) (Figure 5.16).

Figure 5.16: Main constraints faced by MSMEs



Source: KNBS (2016)

A study on County Business Environment for MSEs (CBEM) identified other constraints faced by MSMEs in Makueni County as: financial and technical capacity, market environment, and worksite and related infrastructure. On worksites, MSEs face inadequate and unequipped worksites, lack of public toilet facilities, lack designated areas for waste disposal, poor road infrastructure, frequent power interruptions. On technical capacity MSEs are characterized by low levels of innovation, lack of training and apprenticeship programme for artisans, fragmentation due to multiplicity of players who offer training and capacity building, and lack of monitoring and evaluation of training programmes. With the market environment, MSEs face inadequate market for their local products; stiff competition among themselves; and unfair trade practises which manifest through; contract enforcement, counterfeiting, dumping (substandard goods) and misrepresentation (through weight, price, ingredient). MSEs also face bottlenecks related to; insecurity; multiple licences and permits; numerous procedures for obtaining licenses; and shortage of raw materials.

Effects of COVID-19 on household non-farm and farm businesses

Figure 5.17 presents the effects of COVID-19 on household non-farm and farm businesses in Makueni County. 100 per cent of the respondents report a decrease in their business activities due to the pandemic. Equally 100 per cent of the respondents have had a decrease in their income due to COVID-19. This is an indicator that COVID-19 is already having a negative impact on the non-farm and farm businesses even though the situation is still evolving.

Figure 5.17: Effects of COVID-19 on household non-farm and farm businesses

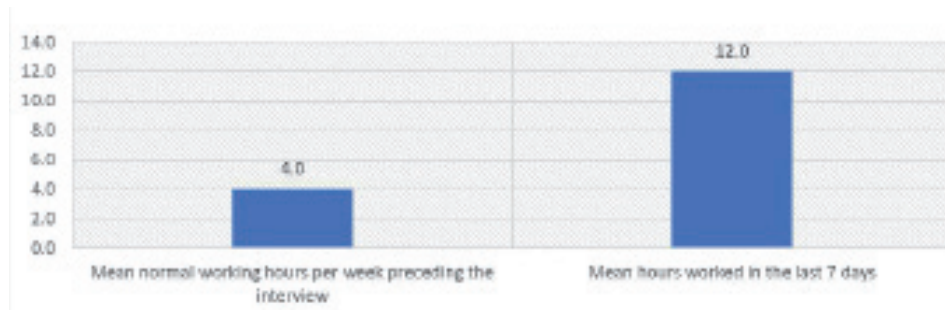


Source: KNBS, COVID-19 Survey 2020

Labour dynamics

During the period considered in KNBS, COVID_19 Survey 2020, respondents reported an improvement 8 hours in the mean working hours for household non-farm and farm businesses in Makueni County which implies an improvement in economic activities between the interview periods (Figure 5.18). This could be as a result of agricultural and service activities considering these considerably form the main stay of the County.

Figure 5.18: Labour dynamics on household non-farm and farm businesses



Source: KNBS, COVID-19 Survey 2020

From the May 2020 KNBS COVID-19 survey, the wholesale and retail trade sector lost 6.2 hours in usual and actual hours worked while accommodation and food services lost 5.3 hours. This indicating the adverse effects of the pandemic on the service sector in the county. The manufacturing sector was the worst affected and lost 9.1 hours per week.

Key Messages:

- a) The key sectors that drive the economy of Makueni County include: Agriculture and Services. Hence, they should be given priority during re-engineering of the County economy.
- b) The key sub-sectors that drive manufacturing to include: food products, wearing apparel, furniture, and fabricated metal products, except machinery and equipment.

- c) The main constraints faced by manufacturing firms are: power interruption, licenses, poor roads/transport, lack of markets, local competition, poor security, and poor access to water supply.
- d) The main constraints faced by MSMEs in Makueni County: licenses , power interruption, lack of markets , poor roads/transport, local competition, poor access to water supply, and poor security.
- e) Access to credit perennially remains a constraint to MSMEs which hinders growth and expansion of businesses, even more so now during the pandemic. There is need to provide financial support to MSMEs that have demand, employ large number of people, and those that provide essential goods and services.
- f) COVID-19 presents opportunities that could be harnessed like development and support of innovations to address the pandemic. These include production of essential goods such as; masks, Personal Protective Equipment (PPEs), and sanitizers, disinfectants, canned foods, immunity boosting products, hospital beds and ventilators. As the pandemic subsides a strategy is required for smooth transition.
- g) Manufacturing establishments must also adopt to cope with the new guidelines which could include rearranging floor plans to allow for social distancing.
- h) Training and capacity building are important in assisting MSMEs to surmount the shocks faced during the pandemic but also allow for re-emergence.
- i) In terms of re-engineering, there is need to consider establishing support measures to re-vitalize and re-open businesses that collapsed during the crisis within the county.

5.2 Opportunities with COVID-19 in Industrial Recovery and Growth

The following are some of the opportunities created by COVID-19 in trade, manufacturing and the MSMEs sector:

- (i) Agro - processing for value addition with important areas of focus including Mango maize, citrus, passion, tomato value chain poultry and textiles production and processing. The county has also installed a juice plant.
- (ii) The textile and wearing apparel sectors can be enhanced to provide PPEs for use within the County and potentially for the domestic and export market.

Effects of COVID-19 on this sector

There have been both positive and negative effects of COVID-19 on this sector. These are outlined below:

- (i) The informal sector plays a key role in the Makueni County economy and has been greatly affected by the COVID-19 pandemic.
- (ii) Factories such as Mango factory is dependent on the supply from other counties such as Kitui and Machakos. There has been reduced output because of the negative effect of COVID-19 on transport

- (iii) There has been an increased wave of innovations during the pandemic.
- (iv) Declining sales and revenues due to depressed demand and low circulation of money in the County, which is caused by loss of incomes by the residents.
- (v) There is a decrease in trade activities in the County due to restrictions on movements due to fear of attending physical markets, where there is fear of contracting the disease.
- (vi) Increased costs resulting from the need to comply with new protocols in form of; provision of handwashing and sanitization points, wearing of masks even for workers, rearrangement of floor plans for social distancing especially for manufacturers and awareness creation.

5.3 Emerging Issues

- (i) There has been reduced income from traders, manufacturers and MSMEs and a corresponding decrease in taxes collected from them. This will affect implementation of Makueni County's planned activities due to reduced projected revenues.
- (ii) The need to identify and promote specific and emerging value chains as a result of COVID-19, and which Makueni County has comparative advantage.
- (iii) Review all the ongoing interventions by the County and also the national government to assess their effectiveness and especially regarding trade, manufacturing and MSMEs.
- (iv) There is need for legislative amendments to ensure the Buy Kenya Build Kenya initiative is implemented at the County.

5.4 Recommendations

To support trade, manufacturing and the MSMEs sector, the following should be considered:

- (i) Promoting access to affordable financing with emphasis on strengthening the Tetheka Fund and other self-sustaining funds dedicated and easily accessible to MSMEs in the County.
- (ii) Promoting tailor made financial literacy programmes for MSMEs and establishing a framework for micro-leasing for the MSMEs.
- (iii) Enhancing skills for MSMEs by strengthening the link between curricula and practical skill sets required in the industry in all learning institutions and centres for vocational training in Makueni County.
- (iv) Providing access to affordable renewable energy in collaboration with the national government and other stakeholders for sustainable development.
- (v) Providing for worksite and related infrastructure through partnership with other institutions both from public and private spheres to facilitate development of adequate and well-equipped worksites with workshops, common user facilities,

incubation centres and showrooms for artisans which is cluster informed and fully serviced. Worksites and market centres to have adequate waste disposal and toilet facilities for use by MSEs to maintain hygiene and health standards.

- (vi) Harmonizing the number of licenses and permits obtained by MSEs so as to streamline the operational requirements and improve the business environment.
- (vii) Establishing partnerships with neighbouring counties to facilitate trade and widen the market scope.
- (viii) Enhance market access for private sector both locally and regionally by developing the regional bloc value chains, market diversification and facilitating greater use of ecommerce in shifting transactions to digital economy.
- (ix) Establish an emergency rescue package for businesses and traders hard-hit by the effects of COVID-19 in the short run. The emergency Fund, supported by development partners and other stakeholders, can be used to identify, and support the most vulnerable businesses and entrepreneurs affected by COVID-19. Related, the County to inject some stimulus to cushion the businesses and traders through affordable credit, waiver of some County taxes, cess, and other charges.
- (x) COVID-19 has increased demand for locally produced goods in the County, and especially Personal Protective Equipment (PPEs), sanitisers, hospital beds and ventilators. It is an opportunity to spur innovation and promote manufacturing and industry development and generation of jobs for the youth.
- (xi) Fast track establishment of an industrial park in Mtito Andei along the SGR line.
- (xii) Promote the sisal cottage industry.

6 Infrastructure

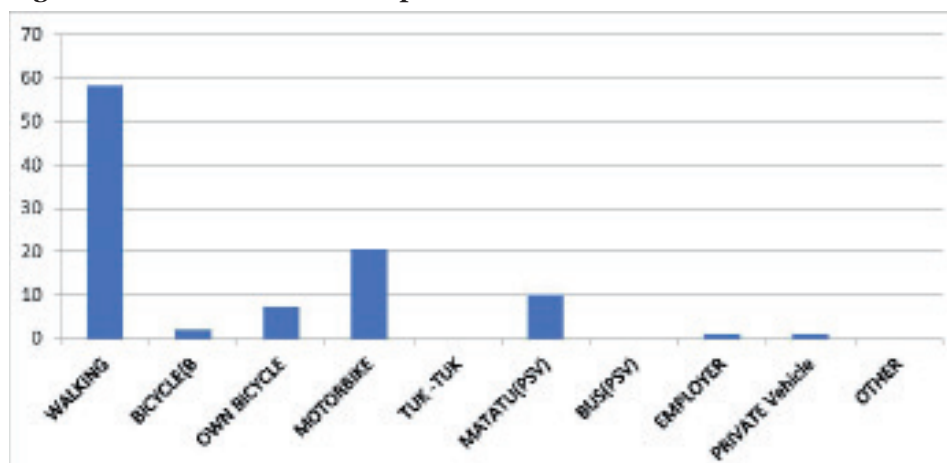
6.1 Transport and Roads

The boda boda operators required to only carry one person per passenger, the enforcement has affected them where their income has declined. Matatu owners carrying fewer passengers resulting in income decline. There are efforts to reduce license fees for the matatu owners since they are greatly affected. There is a financial bill focused on managing the situation in the transport sector.

Characteristics of the sector

Majority of households own a bicycle (29.9%) and a motorcycle (14.2%). Car ownership is at 4.5 per cent (KNBS, 2019). The main means of transport used in the County is walking at 58.18 per cent, followed by motorbike 20.66 per cent, PSV matatus at 10.07 per cent, own bicycle 7.06 per cent, and bicycle (Boda Boda) 2.02 per cent, Figure 6.1, while 96.34 per cent of the population had not changed the main means of transport (KNBS, 2020b). On average, residents travel 1.56 kilometers to their workplace at an average cost of Ksh 154.69. For the commute to school, residents spend on average Ksh 123.61 (KIHBS, 2015/16).

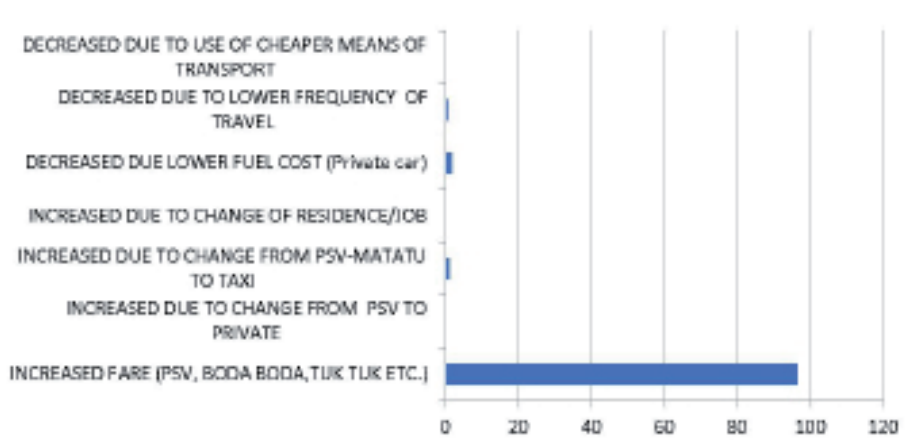
Figure 6.1: Main means of transport



Source: KNBS COVID-19 Impact Survey 2020

The KNBS COVID-19 Impact Survey 2020 revealed that 48.66 per cent of the population reported a change in the cost of travel/commute, figure 6.2. The expenditure on transport increased by 56.79 per cent from Ksh 81 before February 2020 to Ksh 127 in May 2020 for a oneway trip. The main change (96.47%) in transport cost was attributed to increased fares for PSV, BodaBoda and TukTuk.

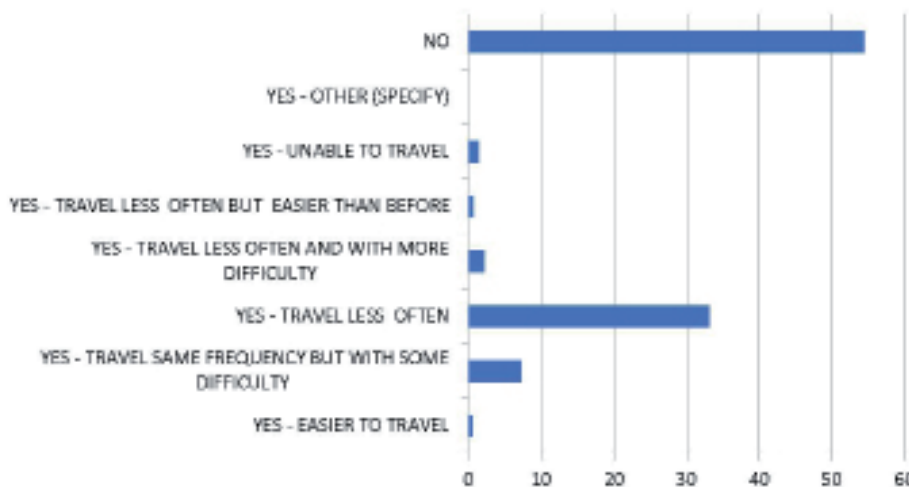
Figure 6.2: Change in cost of main means of transport



Source: KNBS COVID-19 Impact Survey 2020-wave 2

Residents had changed their travel patterns with 33.2 per cent of the population traveling less often, while 7.34 per cent travelled with the same frequency but with some difficulty, and 1.47 per cent were unable to travel. However, 54.49 per cent of the population did not change their travel pattern, Figure 6.3.

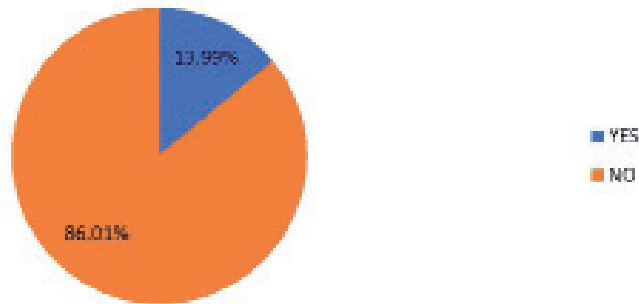
Figure 6.3: Change in travel patterns



Source: KNBS COVID-19 Impact Survey 2020-wave 2

The pandemic has affected delivery of goods and services for 13.99 per cent of households.

Figure 6.4: Proportion of residents whose service delivery has been affected



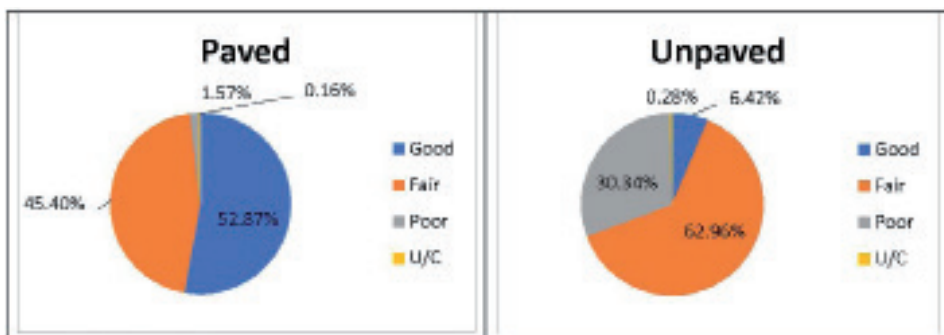
Source: KNBS COVID-19 Impact Survey 2020-wave 2

The County was allocated a total of Ksh 254,349,334 from the Road Maintenance Levy Fund towards road maintenance in the Financial 2017/18 (OCOB, 2019).

Road Network in Makueni County

The county has 12,878.49 kilometres of classified road network. The paved County Road network covers 43.84km, while the paved National roads cover 343.15km. Out of the total paved road network of 386.99km, 52.87 per cent is in good condition, 45.4 per cent in fair condition and 1.57 per cent in poor condition. The unpaved road network in the county covers 7,035.23km (county roads) and 572.82km (National roads), of this, 6.42 per cent is in good condition, 62.96 per cent fair and 30.34 per cent in poor condition as depicted in figure 6.5 (KRB, 2019).

Figure 6.5: Road condition mix-classified road network



Source: KRB (2019)

The unclassified road network in the County covers 4,883.45km, with 2,854.47km of narrow roads, that is, road with a reserve of between 4 -9 meters, while there is a total of 2,028.98km of new roads.

Constraints faced

The Rural Access Index (RAI) measures the proportion of the rural population who live within 2km of an all-season road⁷. The county has a RAI of 73 per cent which is above the National Average of 70 per cent, indicating that access to transport in rural areas is above average (KRB, 2019). This has positive implications with regard to sectors that rely on accessibility such as agriculture, trade and overall development. The road condition mix of the unpaved network at 30.34 per cent is a constraint to development.

Opportunities with COVID-19 in transport sector

The County administration can strategically improve the road network for economic development, while creating jobs for youth, women and vulnerable groups as espoused in the Roads 2000 programme⁸ on labour-based road development approaches. The Roads 10,000 programme being implemented nationally by the roads sub-sector actors, and specifically, the Low Volume Sealed Roads (LVSR) approach⁹ offers a strategic and cost-effective approach to improve rural accessibility in the County. Residents predominantly rely on walking; this is an opportunity during the pandemic period as this mode reduces the risk of infections that would arise from use of motorized public transport¹⁰.

Emerging Issues

- Poor road conditions for unpaved network
- Matatu owners carrying fewer passengers resulting in income decline.
- There are efforts to reduce license fees for the matatu owners since they are greatly affected.
- There is a financial bill focused on managing the situation in the transport sector.

Recommendations

- i) Apply labour based and local resource-based approaches for road development and maintenance, where technically and economically feasible, in line with the Roads 2000 national policy¹¹.
- ii) Focus on increasing the share of unpaved roads in good and fair condition to above 62 per cent which is the national average. For the unpaved road network, focus on adopting the Low Volume Sealed Roads (LVSR) technology for greater network coverage cost effectively.

⁷ RAI defined :

⁸ Roads 2000 programme [http://krb.go.ke/our-downloads/roadsper cent202000per cent20strategicper cent20plan.pdf](http://krb.go.ke/our-downloads/roadsper%20cent202000per%20cent20strategicper%20plan.pdf)

⁹ LVSR /Roads 10,000 programme <https://www.kerra.go.ke/index.php/lvsr>

¹⁰ Non-Motorized Transport strategy <https://www.weforum.org/agenda/2020/05/cities-support-people-walking-and-cycling-work/>

¹¹ Roads 2000 programme [http://krb.go.ke/our-downloads/roadsper cent202000per cent20strategicper cent20plan.pdf](http://krb.go.ke/our-downloads/roadsper%20cent202000per%20cent20strategicper%20plan.pdf)

- iii) Improve and expand infrastructure for Non-Motorized Transport (NMT) in urban areas and along roads with heavy -highs peed traffic to promote sustainable mobility options and enhance road safety for all road users. This is in line with the Integrated National Transport Policy 2009 and the Sustainable Development Goals¹².

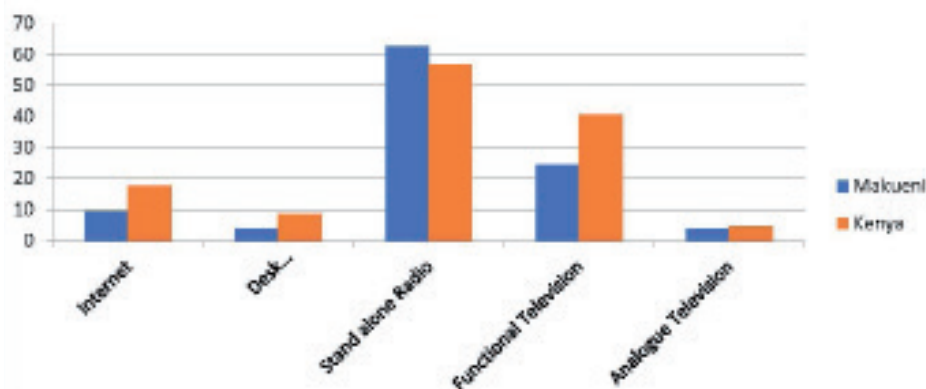
6.2 Information and Communication Technology

ICT has been embraced in the county to help in fighting cartels and corruption in the county. Further, the county administration is rolling out a fixed assets system to help track all the county's assets. The media has been used to communicate to over 20,000 citizens thus creating awareness and sharing crucial information. Meetings are currently being held with professionals in Makueni county where their views about the budget are received.

Characteristics of the sector

The analysis of the 2019 KPHC reveals that only 9.4 per cent of the conventional households in the county 'own' internet with 4.0 per cent owning a desktop, computer laptop or tablet. Internet access, ICT device ownership and TV ownership is particularly critical not only for access of COVID-19 information, but as well as supporting remote learning by the pupils as well as remote working, figure 6.6.

Figure 6.6: Percentage distribution of conventional households by ownership of ICT assets



Source: KPHC (2019)

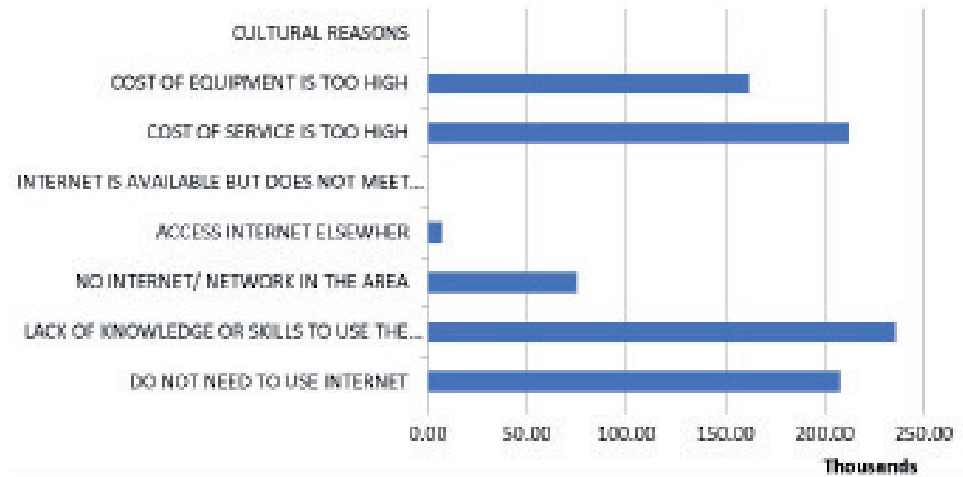
Online shopping is not prevalent in the County. 2.0 per cent of the conventional households searched and bought goods/services online. There exists gender disparity in online shopping with more men (2.5%) than women (1.6 per cent) undertaking online shopping.

The perception of that the individual does not need to use the internet, lack of knowledge and skills on internet are the leading reasons that the people of in the County don't have internet connection (KHIBS). Other key factors include the lack of internet/network in the area, and the high cost of service and equipment, figure 6.7.

¹² Sustainable Mobility for All: <https://sum4all.org/implementing-sdgs>

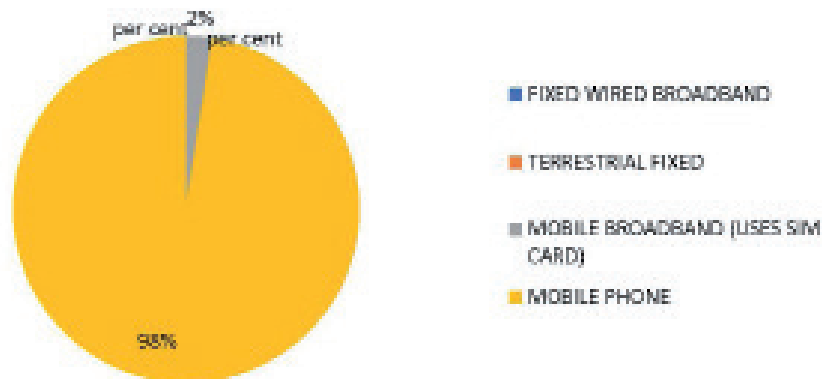
Approximately 98 per cent of the internet users in the county rely on mobile phone for connectivity, with a marginal population of 2 per cent relying on mobile broad band that uses a sim card for connectivity, figure 6.8.

Figure 6.7: Reasons for lack of Internet connection



Source: KNBS (2016), KIHBS 2015/16

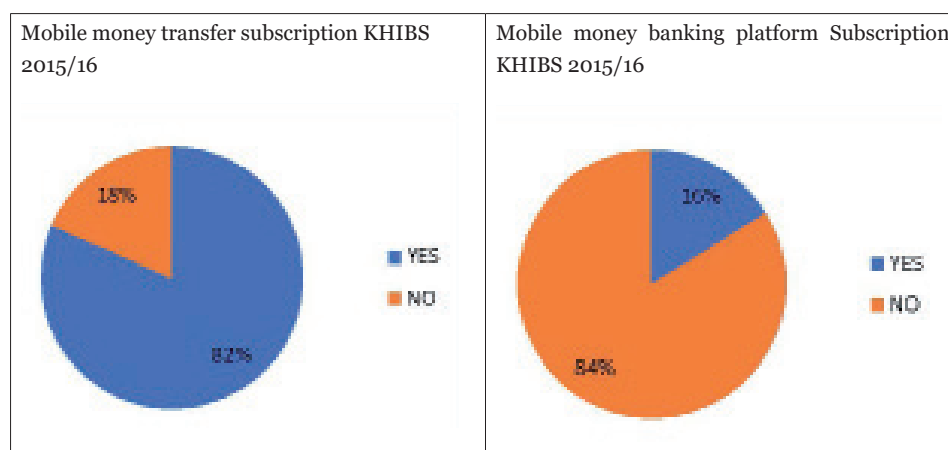
Figure 6.8: Type of Internet connection



Source: KNBS (2016), KIHBS 2015/16

Approximately 49.0 per cent of the population aged 3 years and above own a mobile phone which is lower than the national average of 47.3 per cent. Approximately 82 per cent of the people in the county have a mobile money subscription compared with only 16 per cent that have a mobile money banking platform subscription (KHIBS 2015/16), Figure 6.9.

Figure 6.9: Mobile money transfers subscription and mobile money banking platform



Source: KNBS (2016), KIHBS 2015/16

The county experience gender divides in use of internet and ICT devices as well as mobile money subscriptions. Both internet and ICT device use is higher among the male with 18.0 per cent of the men and 14.3 per cent of the women using internet, while 7.1 per cent of the men and 5.2 per cent of the women using Desktop/Laptop/Tablet devices (KPHC 2019). While the usage is below the national averages, the county recorded a similar gender disparity with the national averages in Internet and ICT usage.

Constraints faced

- Low household ownership of internet and ICT devices limiting potential use of ICT for livelihood support.
- Households perceive that they do not need to use the internet,
- Households lack knowledge and skills on internet

Linkages to other sectors

- ICT has linkages to education, public service delivery and is enabler to business continuity during the pandemic and other disaster or emergency situations.

Opportunities for COVID-19 in ICT

- Working with the national government to connect the county to the fiber network under the NFOBI programme.

Emerging issues

The county has advanced efforts in developing the portal which helps in tracking activities in the county which also allows interaction with residents on key issues. The county administration has adopted open contracting in the county through the portal. Records

have been digitized to help track movement of the records across the departments which helps address delay issues during provision of services in the county.

ICT has been embraced in the county to help in fighting cartels and corruption in the county. Further, the county administration is rolling out a fixed assets system to help track all the county's assets. The media has been used to communicate to over 20,000 citizens thus creating awareness and sharing crucial information. Meetings are currently being held with professionals in Makueni county where their views about the budget are received.

Other emerging issues include: Acceptance of social media as an official communication tool in the workplace, legislation that restrict assigning work to staff past working hours and adoption of virtual offices and virtual working has been appreciated by staff.

Recommendations

- i) Support programmes in partnership with the private sector that will enable households acquire ICT assets such as smart phones and laptops and increase mobile phone ownership from the low of 49.0 per cent to 100 per cent in line with the global agenda for Universal Access to Mobile Telephony¹³
- ii) Adopt programmes to ensure ubiquitous access to reliable and affordable internet to boost household use of internet in daily activities.
- iii) Support the development of ICT competence and skills among the citizenry to enhance uptake of ICT in households.
- iv) Enhance connectivity to public buildings and key trade centres to boost e-commerce especially for MSMEs in trade and business. The NOFBI programme can be expanded to the sub-county administrative units to further enable deployment of e-governance solutions. This will complement the CIDP project aimed at enhancing e-government services by ensuring provision of 70 per cent of government services online.
- v) Review and implement ICT policies and procedures to mitigate the cyber threats and collaborate with the national Computer Incident Response Team (CIRT) and the Communications Authority (CA) towards managing cyber threats. This is because enhanced use of ICT is known to raise threats and risks related to cyber-crime and misinformation. This is aligned to the CIDP project to develop a policy framework on ICT to support the provision of e-government services, development of ICT systems, usage and safe storage of ICT equipment among the various departments and institutions.
- vi) Adequate budgeting for ICT infrastructure and services

¹³ Universal access to mobile telephony: <http://www.itu.int/itu-news/manager/display.asp?lang=en&year=2007&issue=07&ipage=universal-telephony>

7 Housing and Urban Development

Rapid urbanization was experienced across major urban areas in the County due to increased investments in the markets by the County. Inadequate Housing infrastructure in this urban areas and market centres has led to mushrooming of low-cost informal settlements. Over the review period, the County experienced slowed investment in built up areas and sales by stockists of construction materials and hardware shops.

Majority of households in urban areas are headed by men (55.73%) compared to women (44.27%) in the County (KIHBS, 2015/16). There are nine urban centers in the County with a total population of 50.9 per cent males and 49.1 per cent females, table 7-1. The urban land area covers 65 square kilometers with a population density of 1177 persons per sq.km

Table 7.1: Distribution of population by urban centres by gender

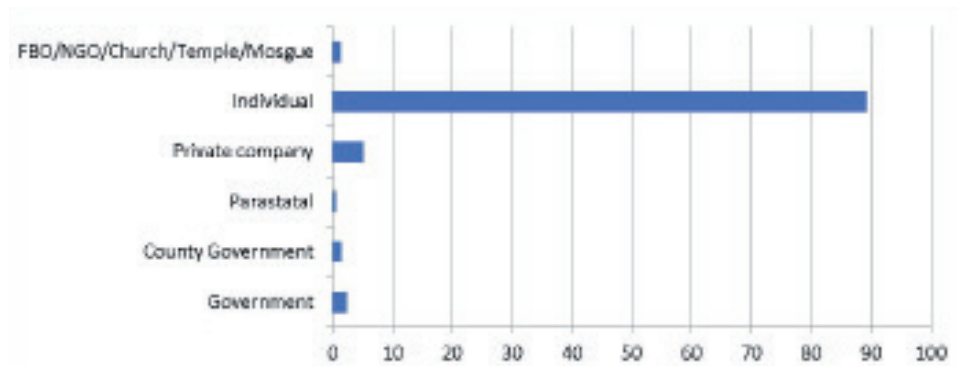
Urban Center	Population	Male	Female
WOTE	19,725	9,916	9,809
MAKINDU	15,038	7,658	7,380
KIBWEZI	8,143	3,957	4,186
MTITO ANDEI	5,626	3,305	2,321
KIKIMA	3,269	1,562	1,707
KIBOKO	2,708	1,448	1,260
NUNGUNI	2,266	1,111	1,155
EMALI	18,325	9,435	8,890
SULTAN HAMUD	8,718	4,183	4,535

Source: KNBS (2019), Kenya Population and Housing Census

7.1 Characteristics of the sector

The housing tenure is predominantly owner occupied at 81.3 per cent, with 18.7 per cent of the households under rental tenure. Individuals are the primary providers of rental housing at 89.2 per cent, followed by Private Companies (5.1%); and National Government (2.3%), figure 7.1; For those who own homes, 97.8 per cent constructed the houses while 0.8 per cent purchased the house and 1.4 per cent inherited their homes (KNBS, 2019).

Figure 7.1: Distribution of households renting/ provided with the main dwelling unit by provider



Source: KNBS (2019), Kenya Population and Housing Census

Housing Quality

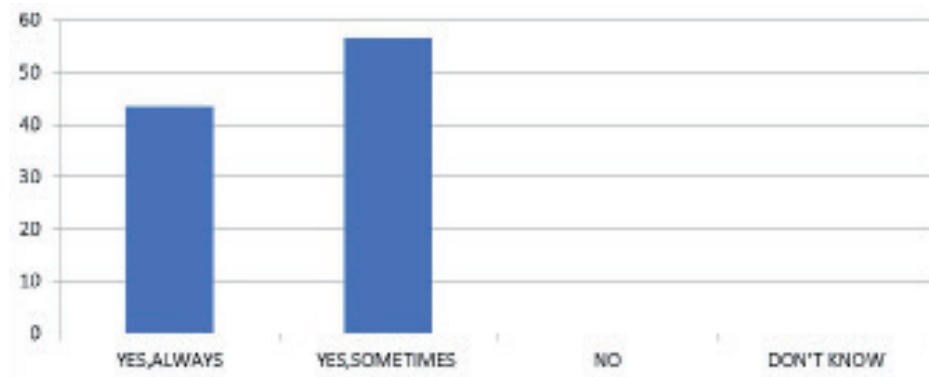
On average, the main dwellings of houses in the County have 2.92 habitable rooms against an average household size of 4.23 persons in a household, translating to approximately 1.45 people per room. According to the UN-Habitat, overcrowding occurs when there are more than three people per room¹⁴. In terms of housing quality (building material), 87.26 per cent of houses are constructed using finished materials for walls, floor and roofing compared to 12.74 per cent constructed using rudimentary materials (KIHBS, 2015/16). Majority of households (96%) have iron sheets for roofing, Bricks walls (55.7%) and Concrete/ Cement/Terrazo floors (56.4%) (KNBS, 2019).

Rent Payment

On average, rental households spend approximately Ksh 4120 on rent with a minimum of Ksh 500 and the maximum of Ksh 18000 (KNBS, 2020b). The county recorded a rent to income ratio of 20.59 per cent which is within the acceptable threshold of 30 per cent (KNBS, 2012/13).

¹⁴ Household crowding measure: [https://www.ncbi.nlm.nih.gov/books/NBK535289/table/ch3.tab2/#:~:text=Overcrowdingper cent20occursper cent20ifper cent20thereper cent20are,perper cent20habitableper cent20roomper cent20\(88\).&text=Crowdingper cent20occursper cent20ifper cent20thereper cent20is,per cent20rooms\)per cent20\(89\)](https://www.ncbi.nlm.nih.gov/books/NBK535289/table/ch3.tab2/#:~:text=Overcrowdingper cent20occursper cent20ifper cent20thereper cent20are,perper cent20habitableper cent20roomper cent20(88).&text=Crowdingper cent20occursper cent20ifper cent20thereper cent20is,per cent20rooms)per cent20(89)

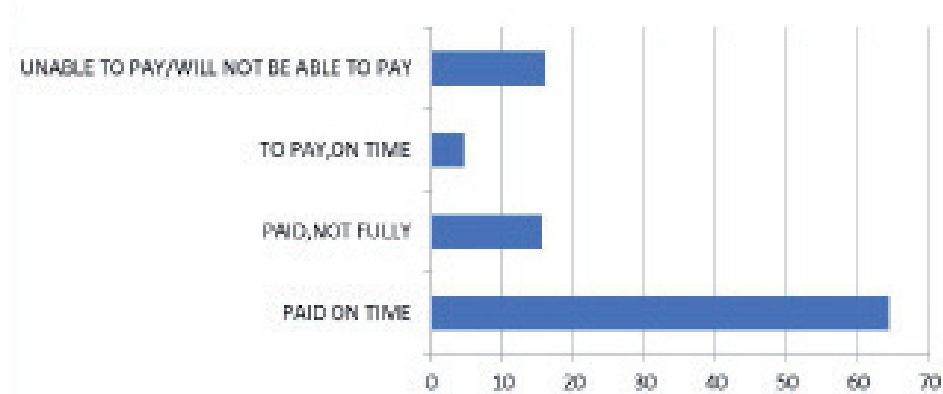
Figure 7.2: Proportion of residents paying rent per terms of contract



Source: KNBS COVID-19 Impact Survey 2020 wave 2

With the advent of COVID-19 pandemic, households' ability to pay rent has been affected, with 15.86 per cent of the population indicating inability to pay rent on the agreed date for April 2020, Figure 7.2, compared to 64.25 per cent of the population that were able to pay rent on the agreed date and 43.38 per cent who paid rent on agreed date before COVID-19 pandemic, Figure 7.3.

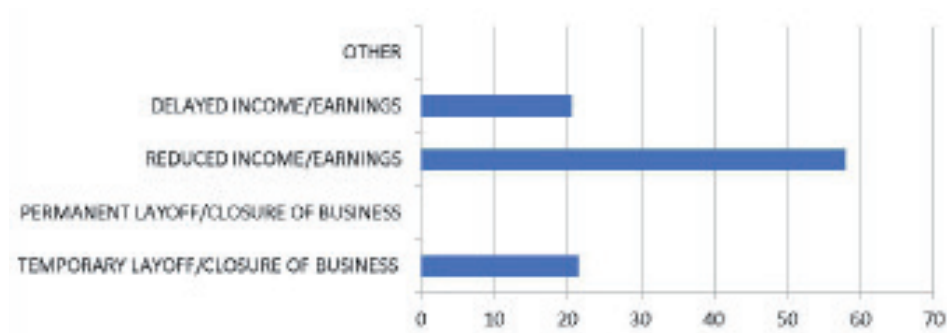
Figure 7.3: Has your household paid the rent for April 2020 on the agreed date



Source: KNBS COVID-19 Impact Survey 2020 wave 2

The main reason that has made households unable to pay rent was attributed to reduced incomes /earnings, reported by 58.01 per cent of the population. The inability to pay rent was attributed to the COVID-19 pandemic by 97.16 per cent of the population, Figure 7.4.

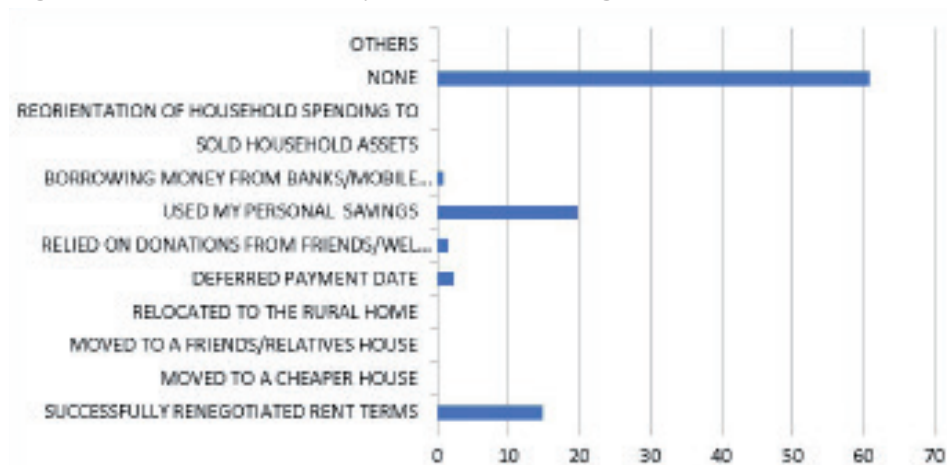
Figure 7.4: Reasons for not being able to pay rent



Source: KNBS COVID-19 Impact Survey 2020 wave 2

Majority of the households (87.9%) did not receive a waiver or relief on payment of rent from the landlord, with 2.66 per cent reporting a partial waiver and no reporting on full waiver. To overcome the effects of Coronavirus on payment on rent 14.7 per cent of households renegotiated rent terms, while 60.8 per cent of households did not take any measures. Approximately 19.7 per cent used personal savings to pay rent, Figure 7.5.

Figure 7.5: Measures taken by household to mitigate COVID-19 effects on rent



Source: KNBS COVID-19 Impact Survey, 2020

With regard to primary energy source for cooking, 90.8 per cent of households rely on unclean sources of energy for cooking such as firewood, paraffin and charcoal, which could adversely affect respiratory health of women and children.

Constraints Faced

- Household inability to pay rent due to livelihood shocks
- Existing stock of housing units built using rudimentary materials
- There has been low investment and urban development due to the pandemic effects.

7.2 Opportunities with COVID-19 in Urban Development

- Existing stock of owner-occupied homes that can be improved using finished building materials for roofing, walls and floors.

7.3 Emerging Issues

- There are households that occupy dwellings constructed using rudimentary materials.
- Household use of unclean cooking fuels
- There is trouble paying rent during this difficult time.
- Urbanization is mainly in the town areas.

7.4 Recommendations

- i) Fast-track implementation of the affordable housing programme with a focus on improving living conditions and building quality applying finished materials for walls, floors and roofing.
- ii) Avail appropriate building technology for use by the public in house construction and improvement in every sub-county, that responds to local cultural and environmental.
- iii) Fast-track designation of Emali, Wote and Makindu as urban centers pursuant to provisions of the Urban Areas and Cities (amendment) Act, 2019.
- iv) Adopt programmes aimed at an increasing household access to clean energy sources and technologies for cooking to mitigate against exposure to respiratory diseases.
- v) Engage the National Government and Ministry of Housing to complete stalled civil servants houses in Wote.

8 Tourism

8.1 Characteristic of the sector

The county has diverse tourist attractions sites including archaeological sites and caves (Kisyula Leviathan Caves); Mudanda rock, Makongo valley and Umani springs in Kibwezi. Undoubtedly, there are inadequate structures tourism accommodation facilities since the county does not have a star-rated provision. Sports tourism is underdeveloped due to limitation of resources and dilapidation of infrastructure for example the Wote stadium. The county has potential for enhancing tourism in the following areas which remains unexploited; Geotourism and Ecotourism this can be achieved with strong political support to remove policy bottlenecks and mobilise resources for the tourism sector. The County can create an attractive environment for investors and tourists by repairing roads and bridges connected to Umani springs, Chyulu and Nzai hills, the county to also consider upgrading major tourist centres like Tsavo west national park and Chyulu hills national park.

8.2 Opportunities with COVID-19 in Tourism Sector

- Improving sanitation aspects in tourism attraction sites.
- Refurbishment of accommodation facilities
- Promoting domestic tourism
- Development of a tourist circuit along the National tourist circuit.

8.3 Emerging Issues

Sanitation is a key component in ensuring business continuity in the tourism sub-sector;

8.4 Recommendations

On the recovery strategy; the County government to;

- i) Increase allocation of annual total budget to tourism development to enable construction of modern theatre and art gallery to support development of talent in music, visual and performing arts; marketing of sculpture and handicrafts; and upgrading of sports stadia to develop talents in sport.

- ii) Enhance investment in infrastructural development to promote more conducive environment for the housing sector particularly in the tourist attraction centres.
- iii) Enforce sanitation and hygiene standards in all accommodation facilities and tourist attraction sites in line with the national guidelines for reopening of hospitality establishments in order to ensure business continuity.
- iv) Conduct research on potential areas for investment in tourism to catalogue information on existing and potential tourism products in each sub county; branding and marketing tourism products; hosting promotional events such as annual tourism and trade investment expos and M.I.C.E. events.
- v) Ease charges in the sector by repealing both the tourism and catering levy and other charges that impact the tourism sector.
- vi) Promote public-private partnerships in conservation and investment. Consider collaboration with the National Museums of Kenya and Non-governmental organization for construction of heritage centers and museums, the re-landscaping of open cultural and natural sites, construction of botanical gardens, organizing cultural festivals and fairs, the identification, documentation, mapping and gazettement of important heritage.
- vii) Allocate resources for investment and rehabilitation of tourism-supporting infrastructure, including sports stadia, modern M.I.C.E venues, and roads leading to the physical tourist attraction sites.

9 Health

9.1 Characteristics of the Sector

General health provision in the County

In 2019/2020, the number of health facilities in the county were 346 which comprised of 327 primary health facilities and 19 hospitals. The number of beds per 10,000 population is 20 against the WHO recommendation of 30 beds per 10, 000 population.

Figure 9.1: Health provision

Year	2018	2019/20
Health facility density		
Primary health facilities	172	327
Hospitals	12	19
<i>Number of health facilities</i>	<i>184</i>	<i>346</i>
Health facility density	3.1	5.0
Bed density		
Hospital beds	1,294	1,322
No. of Beds per 10,000 population	20	20
Human resource density		
Total workforce	1,091	3,902
Human Resources for Health (Technical)	889	1,597
Number per 10,000 population	10.3	15.9

Source: Ministry of Health (2021)

The health facilities and personnel serve a growing population of 987,653 people according 2019 census. In 2019, total health workforce was approximately 3,902 representing 15.9 health workers per 10,000 population which is below the WHO target of 23 health workers per 10,000.

Table 9.1: Percentage distribution of the population that reported sickness/injury by type of health provider in the county (%)

Type of Health Provider	Percentage Distribution of the Population
Government hospital	19.1
Government health centre	12.6
Government dispensary	48.6
	3.1
Community Health	0.1

Private hospital / clinic	13.3
Nursing/ Maternity Home	0.2
Pharmacy/ chemist	0.6
Community health worker	0.0
Shop/ Kiosk	5.1
Traditional healer	0.0
Faith healer	0.0
Herbalist	0.2
Other	0.0
Number of Individuals ('000)	234

Source: KIHBS 2015/2016

Table 9.2 presents the distribution of population reported to have been sick or injured and the type of health provider they visited. Majority of the County residents who reported illness visited Government dispensary (48.6%) followed by those who visited government hospitals at 19.1 per cent. About 12.6 per cent of county residents who reported illness also visited government health centres and 13.3 per cent visited private hospitals.

Population with health insurance cover

The percentage distribution of the population with health insurance cover by type of insurance provider is presented in Table 9.3. In general, 13.5 per cent of the county population had some form of health insurance cover. The National Hospital Insurance Fund (NHIF) was the leading health insurance provider reported by 97.9 per cent of the population. Employer contributory insurance cover was reported by 8.4 per cent of the population. Private contributions to insurance cover were reported by 2.5 per cent of the population.

Source of Health Insurance	Percentage Distribution of the Population (per cent)
Population ('000)	959
Share of population with health insurance (per cent)	13.5
NHIF	97.9
Private-Contributory	2.5
Private-Non-Contributory	0.7
Employer-Contributory	8.4
Employer-Non-Contributory	2.0
Other	0.0
Number of Individuals ('000)	129

Source: KIHBS 2015/16

Place of delivery

In the 2015/16 KIHBS, women in Makueni county were asked the place where children aged 5 years and below were delivered. Table 9.4 shows the percentage distribution of children by place of delivery, in the county. About 33.6 per cent of children were delivered at home which is higher than the national percentage of 31.3 per cent. The proportion of children born in hospitals, health centres, dispensary/clinics was 48 per cent, 10.4 per cent, and 2.4 per cent, respectively.

Table 9.2: Proportion of Children aged 0-59 Months by Place of Delivery (per cent)

Place of Delivery	Proportion of Children aged 0-59 Months by place of delivery (%)
Hospital	48.0
Health Centre	10.4
Clinic/ Dispensary	2.4
Maternity Home	3.1
At Home	33.6
Other	1.8
Not stated	0.7
Number of Individuals ('000)	110

Source: KIHBS 2015/16

Immunization for children

The 2015/16 KIHBS covered data on measles immunization for children below 5 years at; 9 months (Measles I) and at 18 months (Measles II). The information was collected from vaccination cards where they were available while mother's recall was used where the card was not available. Table 9.5 presents information on the proportion of children immunized (from vaccination cards) against measles. The analysis focused on children aged 12-23 months (or one year). The county had 56.1 per cent of the children aged 12-23 months were fully immunized against measles at 9 months while 17.5 per cent were fully immunized against measles at 18 months.

Table 9.3: Proportion of children aged 0-59 months immunized against measles

		Proportion of Children
Vaccination Card	Yes Seen	71.9
	Yes, Not Seen	23.5
	No	2.7
	Not stated	1.9
Measles Vaccination	Measles I (At 9 months Card)	56.1
	Measles II (At 18 months Card)	17.5
	Measles II (Mother/ Guardian memory)	18.7
	Either (card or memory)	74.8
Number of Individuals ('000)		110

Source: KIHBS 2015/16

Health outputs

The county has invested in health care staffing by recruiting additional staff and increased doctor to population ratio to 1:16,149 from 1: 22,712 and increasing the nurse to population ratio to 1: 1,502 compared to 1: 1,932 in 2013. The government also launched the universal health care programme, which has led to reduced out of pocket expenditure in health care. About 78,219 households have registered to the programme. The aged (over 65 years) have access to free health care in the county, which has led to reduction of dependency rate.

The county immunization coverage (under one fully immunized children) is 90 per cent up from 62.26 per cent in 2013 while access to contraceptive acceptance rate stands at 70 per cent from 30.76 per cent in 2013. The county has also invested in health infrastructure and equipment to increase access to quality health care, to this end, the county constructed a 200 mother and child facility at the County Referral Hospital and trauma centre in Makindu Sub-County Hospital. The HIV prevalence rate declined from 5.6 per cent in 2013 to 4.2 percent in 2017 and increase of deliveries conducted by skilled workers from 32 per cent to 55 per cent.

The maternal mortality rate decreased from 480/100,000 in 2013 to 362/100,000 in 2016. The infant mortality rate stood at 45/1000 live births, under-5 mortality rate of 84 deaths per 1000 live births and about 29 deaths per 1000 live births on neo-natal mortality rates.

Table 9.4: Health indicators in Makueni County

Key Health Indicators	County Estimates
Maternal and Child Services	
Skilled delivery (%)	54.6
Children born at home	45.6
Fully immunized child	89.7
Child Mortality	
Infant mortality (*1000)	45
Under-5 mortality (*1000)	84
Neo-natal mortality (*1000)	29
Nutrition Status	
Stunted children (%)	25.1
Wasted children (%)	2.1
Underweight children (%)	10.2
HIV (%)	
HIV adult prevalence (%)	4.2
Children with HIV(No.)	1960
ART adult coverage (%)	70
ART children coverage (%)	88

Source: KDHS, 2014; DHIS 2018

Effects of COVID-19

The county has made the following strides toward preparedness and response to the pandemic; Established and operationalized two COVID-19 treatment centres in: Makindu KMTCC Annex with 309 Beds and Makueni County Referral Hospital with 12 Beds bringing the county total bed capacity to 321. The health sector has played a major role in ensuring that most of the County's population can access affordable healthcare services.

Most of the public health institutions lack sufficient drugs, equipment, means of transportation and health personnel. The bed capacity in the County stands at 616 and doctor population ratio is 1:22,712 which is below the accepted standards. There are 9 VCTs and 138 counselors in the County, which need to be increased to accommodate the population. The average household distance to health facility is six Kilometers, which is way below the national recommended distance of four Kilometers.

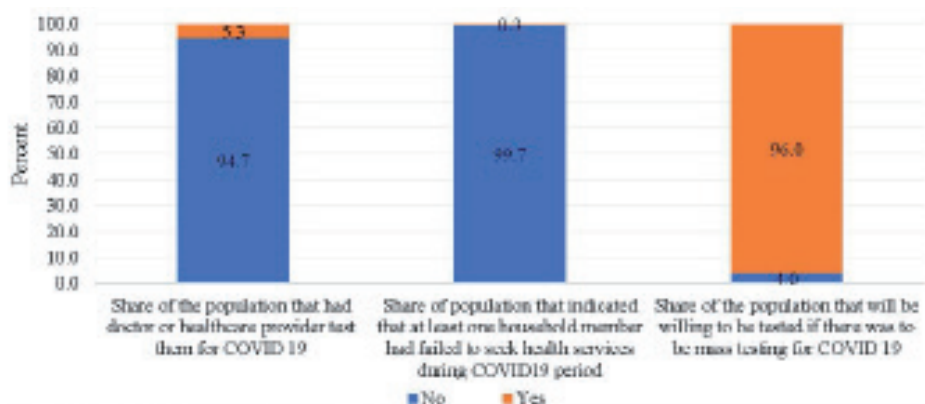
The health sector in the county has been stable during this period where there is only one case of COVID-19 reported, the patients is under care in one of the health facilities. There are a few people put into quarantine. The truck drivers are far from much affected thus the county is on high alert of the possible situation getting worse thus there is preparedness through the budget provision. The county already has the 300 bed capacity to take care of COVID-19 patients available in two centres, Wote and Makindu hospital on Mombasa road.

In terms of health personnel, the county has enough health officers and is in the process of recruiting more as advised by the national government. The county has facilitated the health staff with PPEs, mask and food. The county has so far supplied 46,000 masks in the county. The health preparedness has been managed well and the county continue focusing on enhancing health capacity. Donations have been received from well-wishers inform of sanitizers, PPEs, food etc.

In collaboration with partners, the county has managed to supply masks to every ward and in public places and has obtained sprayers to disinfect markets. Further, the county has set up washing hand booths at strategic places like hospitals and markets, public office and public areas, where the county has provided water tanks, soaps and sanitizers. The county has also put effort in ensuring there is enough supply of water as well as reviving water points and continuous takes prompt measures to address water challenges where required.

In June 2020, Kenya National Bureaus of Statistics conducted a survey of COVID-19. The results showed share of the population that had doctor or healthcare provider testing or confirming to them the status in regards COVID-19 was estimated at 5.3 per cent in 2020 (COVID-19, Wave 2 survey). This small number shows that there is a large population of people in the county who have not yet been tested for COVID-19. Further, only 0.3 percent of the population indicated that at least one household member had failed to seek health services and 96 per cent of the population indicated they will be willing to be tested if there was mass testing for COVID-19. Therefore, a lot of awareness need to be created among the county population.

Figure 9.2: COVID-19 testing, 2020



Source: COVID-19 Wave 2 (June 2020)

As per the latest National Adolescents and Youth Survey (NAYS) report of 2020, the main health problems affecting young people are teenage pregnancies, drug, and substance abuse (DSA), STI and/or HIV and AIDS infections, malnutrition, mental health problems, SGBV and abortion. Other problems that were mentioned are poor sanitation and existence of diseases such as malaria. The main causes of the health issues in the county are high levels of poverty in households, fear of knowing HIV status. Addiction to Drug and Substance Abuse (DSA), idleness, parental negligence / lack of parental guidance and lack of or inadequate health information and services.

COVID-19 has worsened the situation as far as youths and women are concerned. These are the groups have been faced several challenges even before the outbreak of the COVID-19. FGM and Gender based violence cases have increased with the lock down. Youths who are entrepreneurs have also been affected losing jobs and businesses due to the lockdown. Other problems facing youths includes Teenage pregnancies, malnutrition, STI/HIV and Aids, poor environment, drug and substance abuse and malnutrition. High cases of STIs and HIV are due to cultural practices and initiation in the Moran where young people are prepared to adulthood and marriage. The young men are under pressure to engage in unprotected sex with multiple partners. The case is no different for young, circumcised girls who are under pressure to have sex or get married. Teenage pregnancies were as a result of harmful cultural practices which encourages young boys and girls to engage in sex after the circumcision. Young girls are married to old men immediately after circumcision. This leads to majority of girls dropping out of school after getting pregnancy.

Drug abuse has also caused major damages to the young people who indulge in it due to peer pressure. This leads to mental health problems hence dropping out of school and other getting involved in crimes and other social evils such as prostitution. Malnutrition was attributed to high poverty levels in the county whereby people cannot afford food of good nutrients. There is also poor sanitation and lack of water. This catalyze the spread of other diseases such as typhoid and cholera which are causes of morbidity and mortality rates in the county.

The above challenges can be addressed by introducing guidance and counselling among the youths, expanding school feeding programmes, starting campaigns against drugs and substance abuse, Provision of clean water, free sanitary pads issuance and health education that promotes positive cultural practices.

Lack of adequate health infrastructural facilities across the county, negatively impact on access and equity in the availability of essential health care aimed at promoting a healthy population that will effectively participate in the development of the nation. Those completely unable to access the health services are sometimes rendered economically unproductive. In cases where the sick person is the bread winner, the family may become impoverished. This has led to high cases of dependency. Inaccessibility to health facility has also led to high mortality rates. The distance to the health facilities is 6km making it hard for the elderly and sick to reach the hospitals for the treatment.

The county is undertaking awareness to dissuade the fears among the public most of whom had stopped going to the hospital thus cutting the revenue stream. The local productions of masks have provided opportunity for revenue creation. The county was also experiencing challenges in meeting her local revenue collection. The county has been experiencing downward trend in revenue collection due to weak systems in place for collecting revenue. However, with more sensitization about COVID-19, people will resume looking for health services from the hospitals and other health centers. This will increase revenue collection in the county.

Main raw materials in the health sector are the services offered by health professionals and other employees. Medicine and drugs are also key materials. County is also producing masks, which are in high demand during this COVID-19 period. Access and provision of these materials were affected by the outbreak and spread of the virus, resulting to higher demand relative to the supply.

Most of the health services in health centres and dispensaries are government funded and so the facilities rely heavily on national share of the funding. To limit the spread of disease and create additional inpatient capacity and staffing, many hospitals initially closed down outpatient departments and postponing or canceling elective visits and procedures. These changes, while needed to respond to the COVID-19 pandemic, potentially threatened the financial obligation of hospitals.

The county is also struggling with the health sector after devolution. There were inadequate structures to handle the responsibilities given to the county government. There are inadequate health workers to serve the large population in the county. In addition, there is a problem of procurement of medicine and other drugs as the counties are not allowed to procure for drugs themselves but are forced to buy from KEMSA. This sometimes results into delays in delivery of the needed drugs. The county also does not have adequate bed capacity to handle all her patients. It is in the wake of COVID-19 outbreak that the county has rushed against time to establish more ICU bed.

The sector has linkages with the Education, ICT, WASH and Agriculture sectors. There is a direct proportionality between education and health. The high the education level of members of the county, the healthier they are. High level of education reduces instances of disease outbreaks due to ignorance. This particularly reduces health diseases such as sexually transmitted among the youths and adults.

Advancement in ICT also helps improve health sector. This is because with ICT, it is easy to scan for diseases and manage the treatment. With advancement in ICT, it is possible to do diagnosis to patients and treat them promptly. A good example is the scan for pregnant mothers and cancer patients. Some countries such as Rwanda, drones are being used to deliver bloods. This is helping in mortality rate reduction. Good water and sewerage facilities also contributes greatly to reduction of diseases such as cholera, typhoid and other waterborne. This is because by maintaining good hygiene such as washing hands after visiting toilets, washing fruits before eating and boiling/treating drinking water.

Good disposal of waste by avoiding open defecation and using toilets also helps reduce spread of diseases spread through human waste. Agriculture sector also plays a key role in ensuring that people get balanced diet and good nutrition. This reduces cases of malnutrition and stunted growth among children due to lack of certain nutrients and vitamins. Agriculture also serves as a source of revenue and employment mostly for the females. This reduces cases of family conflicts and stresses, hence reducing mental diseases.

9.2 Opportunities with COVID-19 in Health Sector

Increased trade among SEKEB Counties especially in protective and sanitary equipment (Kitui Textiles)

There is also a proposal to share specialized doctors to work across the three counties in the regional block especially during the COVID-19 period.

The county has an opportunity to learn from others thus coming up with strategies for improving on various areas. There is also an opportunity for improving on health facilities e.g. ICUs where the county only had four where only one was functional. However, currently the county has 12 ICUs and a 300-bed capacity, which has been improved recently. There

is an opportunity to support small enterprises and hotel businesses, which can be used as quarantine centers after proper sensitization of the staff by the county.

Additionally, due to reduced social contacts most of the meetings have been taking place virtually. This has provided an opportunity for the development of ICT. This has saved the county money, which could have used in the movement from place to another, conference hall fee as well as accommodation for her staff. This has also promoted of ICT and other communication channels within the county hence speedy transfer of information. The pandemic has also led to utilization of local capacity in production of masks and PPEs. This has promoted growth of local industries, hence creating employment.

The COVID-19 pandemic has increased the demand for isolation centres, admission beds, ICU and HDU beds. It has also overstretched the existing health facilities. Additionally, with spread of pandemic across counties it has created fear among the residents and some of them have opted not to visit the hospital in fear of contracting the virus.

The outbreak of the virus has caused the county to reprioritize its health sector priorities and some preventative and promotive health services such: malaria control; expanded programmes on immunization; integrated management of childhood illness; and control and prevention of environmentally communicable diseases have been affected to some extent.

9.3 Recommendations

In line with the health status in the county, some of the recommendations that need attention include the following:

- (i) The county to create awareness on availability and importance of free maternity services and address other constraints to access of maternal health services in the county to address risk of contracting COVID-19 in event of visiting any health facility.
- (ii) To reduce high burden of both communicable and non-communicable disease, the county to revamp its Community Health Strategy. This is will be achieved through engaging Community Health Volunteers (CHVs) and equip them with the relevant resources and skills.
- (iii) The county to also revamp, expand, modernize and adequately equip health facilities, including, Wote and Makindu hospital. This intervention is in line with the County's 2018-2022 CIDP of adequately equipping existing medical facilities.
- (iv) The county to implement a comprehensive human resource health management system including undertaking training needs assessments and information system to ensure skilled and motivated health care workers and equitable deployment.
- (v) The county to also recruit additional public health officers and community health workers to strengthen preventive and primary health systems.
- (vi) The county to promote and support public and community health including the installation of hand washing facilities in homes and institutions such as schools, workplaces and health care facilities with Makueni County. This intervention is in line with county's CIDP 2018-2022 of accelerating performance, improvement and

integration of intervention approaches in Water, sanitation and hygiene (WASH), Community Led Total Sanitation (CLTS) and medical camps outreaches.

- (vii) The county to enhance supply of medical products and any other health care commodities to all health facilities as envisioned in County's CIDP 2018-2022.
- (viii) The county to always proactively address the mental health needs including those of the health workforce, mental illnesses from depression, especially in response to shut-downs, economic downturns, uncustomary care and burial of affected relatives.

10 Education and Training

10.1 Characteristics of the Sector

General Education Provision in the County

The County has 1,510 Early Childhood Development (ECD) Centres with a total enrolment of 41,820 composed of 21,922 boys and 19,898 girls. There is a high retention rate of 94.4 per cent and average of two years of attendance. There are 1315 teachers translating into a teacher pupil ratio is 1:25.

The County has 982 primary schools out of which 914 are Government owned while 68 are private owned. The total enrolment is 269,752 pupils and 7,242 teachers which translate into a teacher pupil ratio of 1:37. The retention rate is 93 per cent. On average most of the pupils (70%) cover a long distance of 5km and more to the nearest school. The Gross Enrolment rate in primary school stands at 120 per cent meaning there are many children who are above age 6-13 age group who are in primary school

By the year 2012 there were 339 secondary schools with a total enrolment of 75,985 and a retention rate of 86 per cent. With a total of 2300 teachers, the County has a teacher pupil ratio of 1:33. The transition rate from primary to secondary school is 60 per cent while Gross Enrolment rate stands at 76.6 per cent

The County has 12 tertiary institutions and two university satellite campuses. Shortage of University and National Polytechnics to accommodate the high numbers of students from secondary Schools, impacts negatively in career development.

About 99.9 per cent of public primary schools in Makueni County have been installed with ICT infrastructure and devices under the Digital Literacy Programme (DLP) (ICT Authority, 2019). The infrastructures include learner digital devices (LDD), teacher digital devices (TDD) and the Digital Content Server and Wireless Router (DCSWR).

Gross Attendance Ratio (GAR) and Net Attendance Ratio (NAR)

The Gross Attendance Rate (GAR) for pre-primary school was 71.9 per cent while that of primary school and secondary school was 127.2 and 71.7 per cent respectively in 2015/16 (Table 10.1). Gross Attendance Ratio (GAR) represents the total number of persons attending school regardless of their age, expressed as a percentage of the official school age population for a specific level of education. The GAR for pre-primary school was higher for females, 72.3 per cent, compared to that for males, 71.4 per cent. The GAR for primary school was higher for females, 131 per cent, compared to that for males, 123.7 per cent. The GAR for secondary school was higher for males, 75.8 per cent, compared to that for females, 67.7 per cent. Net Attendance Ratio (NAR) is the total number of persons in the official school age group attending a specific education level to the total population in that

age group. Table 10.1 shows that total NAR for pre-primary, primary and secondary school was 58.3 per cent, 94.6 per cent and 39.4 per cent, respectively.

Table 10.1: Gross Attendance Ratio and Net Attendance Ratio by Educational Level in Makueni County

Education Level	Gender	Gross Attendance Ratio	Net Attendance Ratio
Pre-Primary School	Male	71.4	51.5
	Female	72.3	64.4
	Total	71.9	58.3
Primary School	Male	123.7	92.2
	Female	131	97.1
	Total	127.2	94.6
Secondary School	Male	75.8	37.0
	Female	67.7	41.7
	Total	71.7	39.4

Source: KIHBS 2015/16

Basic education gross and net enrolment rate

The pre-primary gross enrolment rate in the county was 86.3 per cent in 2019 and while the net enrolment rate was 58.5 per cent. The Gross Primary and Secondary enrolment rates stood at 118.4 per cent and 84.4 per cent respectively in 2019 while the Net enrolment rates (NER) were 89.1 per cent and 48.6 per cent for primary school and secondary school respectively during the same period.

Table 10.2: Gross and net enrolment rate (%), 2019

Preprimary	2019
Gross Enrollment rate (GER) (%)	86.3
Net Enrollment rate (NER) (%)	58.5
Gender parity index	0.98
Primary	
Gross Enrollment rate (GER)(%)	118.4
Net Enrollment rate (NER) (%)	89.1
Gender parity index	0.95
Secondary	
Gross Enrollment rate (GER) (%)	84.4
Net Enrollment rate (NER) (%)	48.6
Gender parity index	1.08

Source: KNBS (2022)

Literacy

The analysis of literacy is based on respondents' self-assessment as no reading and writing tests were administered during the data collection. Further it was assumed that anybody with secondary level of schooling and above could read and write. The percentage distribution of population aged 15 years and above by ability to read and write is presented in Table 10.3. The proportion of literate population in the county was 82.3 per cent with the male population being more literate (85.5%) compared to their female counterparts (79.3%).

Table 10.3: Percentage distribution of population aged 15 years and above by ability to read and write (%)

	Ability to Read and Write	Percentage Distribution (%)
Overall county	Literate	82.3
	Illiterate	17.1
	Not Stated	0.6
	Number of Individuals ('000)	585
Male	Literate	85.5
	Illiterate	14.1
	Not Stated	0.4
	Number of Individuals ('000)	278
Female	Literate	79.3
	Illiterate	19.8
	Not Stated	0.8
	Number of Individuals ('000)	307

Source: KIHBS 2015/16

Educational Attainment

The distribution of population aged 3 years and above by educational qualification attained is presented in Table 10.4. Approximately 50.1 per cent of the population do not have any educational qualification. This is high than the national percentage of 49.7. Only 0.7 per cent of the population has attained university degree. The proportion of the population with CPE/KCPE qualification is 31.1 per cent and that of KCE/ KCSE qualification is 11.2 per cent.

Table 10.4: Percentage distribution of population by highest educational qualification

Highest Educational Qualification	Percentage Distribution of Population
None	50.1
CPE/ KCPE	31.1
KAPE	0
KJSE	0.6
KCE/ KCSE	11.2
KACE/ EAACE	0.2
Certificate	2.4
Diploma	1.4
Degree	0.7
Basic/post literacy certificate	0.1
Other	0.1
Not Stated	2.1
Number of individuals ('000)	840

Source: KIHBS 2015/16

Percentage distribution of Makueni County residents aged 3 years and above who had ever attended school by the highest level reached, and sex is presented in 10.5. The proportion of males who had reached primary school level was 64.2 per cent while that of females was 60.5 per cent. Except for primary school level and college (middle level), the proportion of males who had reached other levels of education were comparatively higher than females. For instance, for all persons who reported to have attended school, 7.4 per cent of males and 7 per cent females had reached pre-primary school level in the County. There was a high disparity between the proportion of persons who had reached university education level, with male recording a higher percentage than female at 1.8 per cent and 1 per cent, respectively.

Table 10.5: Percentage distribution of residents 3 years and above who had ever attended school by highest level reached, and sex for Makueni County (%)

Educational Level	Gender	Percentage Distribution of Population 3 Years and above
Pre-primary	Male	7.4
	Female	7
Primary	Male	64.2
	Female	60.5
Post primary vocational	Male	2.3
	Female	2.5
Secondary	Male	19.7
	Female	23.9

College (Middle-level)	Male	2.3
	Female	2.8
University	Male	1.8
	Female	1
Madrassa / Duksi	Male	0
	Female	0
Other	Male	0
	Female	0.3
Not Stated	Male	2.3
	Female	2.1
Number of Individuals ('000)	Male	409
	Female	430

Source: KIHBS 2015/16

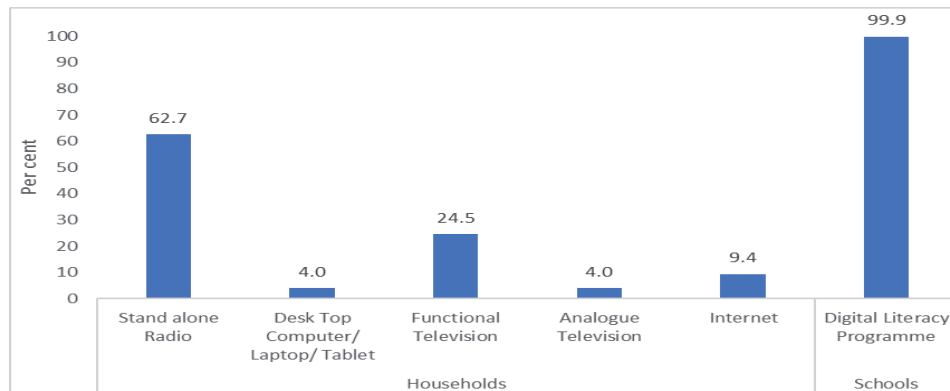
According to the National Adolescents and Youth Survey (NAYS, 2014), drugs and substance abuse, child labour, absenteeism of teachers and students were the main education problems affecting young people. The participants attributed the problems to peer pressure among youth as well as poverty which leads to school dropout as students cannot afford school fees.

Just like other counties, many people in Makueni County lost their jobs because of the COVID-19 pandemic. Private schools were forced to lay off both teaching and support (casuals) staff because they could not sustain their salaries. Public schools faced challenges in making payment for the other expenses such as electricity, water and security bills. Apart from the other expenses, public schools could not pay teachers who were hired on contracts and were under boards of management.

Private schools in Makueni County were severely affected as a result of the COVID-19 pandemic because they could no longer receive income in form of school fees. Suppliers and vendors who sold their goods and services to schools lost their target market after the government ordered all schools to shut down.

ICT in education

The county has also low internet access 9.4 per cent which constrain online learning across the County. Furthermore, only 4.0 percent of the households had access to ICT equipment such as laptops and computers. This makes it difficult for the pupils and other students to benefit from national learning programme which had been started by the government. Even if the programme was to be done through radio, it would be difficult since only 62.7 per cent of the county population has a radio

Figure 10.1: Access to ICT in households and schools

Source: Kenya Population and Housing Census (KPHS, 2019)

10.2 Opportunities with COVID-19 in education and training

The demand for PPEs such as masks in the County has led to local production by VTCs hence creating employment and income for youth. It will however be important to address issues of standards and quality of the local produced PPEs. COVID-19 pandemic has also provided opportunity for the county government to forge partnerships to ensure enough network coverage across all the sub-counties and counties in the Central region. There is also the opportunity of exploring online classes. This if effective, can save time spent on travelling from home to schools to teach. Teachers will be able to reach at the comfort of their seats. This can reduce the cases of lateness and absenteeism. Learning from homes will also reduce accidents and injuries among pupils at school. It will also reduce indiscipline and drug abuse as parents will be able to closely monitor their children at home. The disease has also created an opportunity for creativity among students who are involved in making of ventilators and researching on vaccines.

10.3 Emerging Issues

The County with support from stakeholders will need to continue to invest in early childhood development through infrastructural development to allow for adequate social distancing; deployment of ECDE teachers, provision of sanitation facilities and enhanced school feeding programme. To achieve these objectives, the county to require to partner with the national government and private sector to enhance ECDE and vocation training through infrastructural development as well as equipment of all ECDE, primary, secondary, and vocational training, and University branches in the County with adequate WASH and adequate learning spaces upon reopening. High cases of school dropout especially transition from primary to secondary level of education. There is also the issue of drug and substance abuse among the students which need to address has it has great impact on education. Other issues include New curriculum and concerns on lower secondary in primary schools and the infrastructural development to match the enforced transition (compulsory transition).

10.4 Recommendations

- (i) The County with support from stakeholders should continue to invest in early childhood development through infrastructural development to allow for adequate social distancing; deployment of ECDE teachers and provision of sanitation facilities.
- (ii) The county to involve communities to mobilize learners when schools will be reopening process and while deepening implementation of COVID-19 mitigation measures. The county to combine community participation and large-scale direct communication campaigns to parents, and where possible, increase attendance options to accommodate all children, including those with highest risk of dropping out, also promote back to school campaign and community outreach to ensure that no child is being dropped out of school due to COVID-19 emergency.
- (iii) The County to prioritize projects that improve school water, sanitation and hygiene facilities and management in order to reduce future effect of similar or related outbreak while promoting public health in learning institutions.
- (iv) The county to promote remedial/catch up lessons for learners who might have lagged behind also schools to utilize ICT platforms and have a depository of teaching and learning materials that learners could use at their own time and while at home.
- (v) The county to provide financial or in-kind support, such as school feeding, to help families overcome the increased costs of attending school, also provide psychosocial support to teachers and learners.
- (vi) Concerted efforts will also be required to fight drug and substance abuse among the youths in the county. This can be done through counseling and ensuring that they are not idle especially this period when learning institutions are locked.
- (vii) Government needs to come in and support private institutions which are facing threat of closure due to losses as a result of closing school indefinitely. This can involve giving grants and loans to the private schools.

11 Social Protection

11.1 Characteristics of the Sector

Sources of vulnerabilities in the County

According to the KNBS census 2019, Makeni County has a population of 987,653 of whom 6.8 per cent are the elderly and 4.1 per cent are people living with disabilities. The overall poverty rates in the county stand at 67 per cent which is higher than the national average of 36.1 per cent. The county's food poverty levels are at 35 per cent. Further, about 25 per cent of the children population is stunted. The impact of the COVID-19 to the county's economy cannot be gainsaid.

Severe Shocks to The Households

Severe shocks have had negative impact to the household's economic and social welfare of county residents. Table 11.1 presents the proportion of households by the first severe shock in the county. The major shocks in the county include droughts or floods which affected 29 per cent of the households followed by death of family members and large rise in prices of food which affected 22 per cent and 5.9 per cent of the households, respectively. Other shocks in the county include Household business failure/nonagricultural, dearth of livestock and Loss of salaried employment or non-payment of salary which affected 3.4 per cent, 5.4 per cent and 1.5 per cent. Severe water shortage affected about 9 per cent of the households in the county.

Table 11.1: The proportion of households by the first severe shock in the county

First Severe Shock	The proportion of households (per cent)
Droughts or Floods	29
Crop disease or crop pests	2
Livestock died	5.4
Livestock were stolen	0
Household business failure, nonagricultural	3.4
Loss of salaried employment or non-payment of salary	1.5
End of regular assistance, aid, or remittances from outside the household	1.5
Large fall in sale prices for crops	0.7
Large rise in price of food	5.9

Large rise in agricultural input prices	1
Severe water shortage	9
Birth in the household	1
Death of household head	3
Death of working member of household	1
Death of other family Member	22
Break-up of the household	2
Bread winner jailed	1
Fire	1
Robbery / Burglary / Assault	1
Carjacking	-
Dwelling damaged, destroyed	-
Eviction	0
Ethnic/ Clan clashes	1
Conflict	1
HIV/ AIDS	1
Other	23
Number of households with Shock	196,000

Source: KIHBS 2015/16

Distribution of Social Assistance Beneficiaries

Households in the county received various forms of social assistance or transfers or gift either in form of a good, service, financial asset or other asset by an individual, household or institution. Transfers constitute income that the household receives without working for it and augments household income by improving its welfare. Cash transfers include assistance in form of currency or transferable deposits such as cheque and money orders. The proportion of households that received cash transfers by source, household headship, residence and county is presented in Table 11.2. Overall, 49 percent of the households received cash transfers. A higher proportion of households received transfers from within the country (78%), mainly from individuals (81%) while external transfers constituted 12 per cent.

Table 11.2: The proportion of households that received cash transfers by source, and household headship

		Beneficiaries
	Total Number of Households	233,000
	<i>Households receiving transfers (per cent)</i>	49
<i>From Inside Kenya</i>	Individual	31,251
	Non-Profit Institution	-
	National Government	63
	County Government	-
	Corporate Sector	-
Inside Kenya		31,314
Outside Kenya		-
Total		28,728
Number of households that received transfers		115,000

Source: KIHBS 2015/16

The county has in place an elaborate program in place to support the orphans, elderly and other vulnerable groups through food supplies. Through this program and the other support, 1647 elderly persons have been provided food provisions. There are street children in the county majorly in Emali town, there is a plan to construct a children's home by the county to be used as a rehabilitation center for them. The county has also cushion farmers through the provision of extension officers hired to support their activities. There is a group of interns struggling despite previously working with the county with their contracts having ended. The county has a counselling unit for handling gender-based violence among other issues arising from domestic violence, there is also a safe home for victims of violence. The county is also focused on enhancing budget on county internships since most youths have lost jobs during this period.

The social and economic effects of the COVID-19 pandemic increased households' susceptibility to Gender Based Violence (GBV) in the county. Response measures taken to contain the COVID-19 pandemic, such as movement restrictions, lockdown, and curfew hours, have led to loss of income, isolation, high levels of stress and anxiety exposing household members to psychological, economic, sexual violence and physical harm as couples spend more time in close contact. Other challenges affecting the youth include unemployment and drug use, especially alcohol and substance abuse.

The closure of open-air markets affected the population's source of livelihoods. Livestock markets were closed making it hard for people to sell their livestock which serves as a main source of income. This means that they could no longer feed their households members. Other small scale traders such as those in transport industries like *matatu* and *bodaboda* have been affected since the number of passengers they carry per trip has been reduced. Thus, due to introduction of social distance requirements. This has therefore reduced their income with some operating at losses. Shops and Kiosks, social centers such as club and

bars, hotels have been affected by the curfew and social distance requirements thus reducing the amount of income that they get. Unemployment rate in the county has increased due to close of many businesses and learning institutions. This has led to the decline in living standards and family conflicts due to limited sources of income.

Most of the social protection operations were undertaken through non-contributory transfers in cash for the elderly, OVCs and PWDS. In some instances, in kind transfers which include school feeding programmes were also used to reach a wider audience and age group.

The county revenue collection declined because of outbreak of COVID-19. The border points were closed hence no people were allowed to leave the county through them to other counties. This has affected most businesses which serve as a source of income for many families. Resumption of services and free movement across borders and opening of markets will enable the county to collect bore revenue hence boosting her targets. The main source of revenue to implement social protection activities in the county were mostly government budgetary allocations and donor contribution to OVCs, PWDS, and the elderly. The county government has been complementing the work of the national government on taking care of the OVCs. The county government aims at protecting children from abuse, neglect, and discrimination in accordance with the Children's Act, 2001, and the Education Act, 2012.

Loss of jobs and business opportunities led to an increase in poverty and declining of people welfare. With loss of jobs and businesses, most youths were involved in the activities such as crimes, prostitution and other social evils. Job losses also increased suffering among county residents. In addition, decreased county revenue made it hard for the county to cater for the needy cases and mostly those affected by COVID-19. In addition, unemployment and recruitment to the terror groups posed a great danger to the youths in the county.

Social protection is directly linked to the health sector. When people's social welfare is good, that is people have good health insurance, they can be able to access health services in case of sickness. When people welfare is affected by loss of employment and closing of businesses, they are more likely to suffer from diseases such as stress and depression. ICT also plays a key role in terms of information dissemination through media such as radio, television, mobile phones, etc. Communication is key especially for the people in business as one need to place order for goods or services. ICT is also involved in record keeping of those people in schemes such as NHIF and NSSF as well as other insurances.

Additionally, social protection is directly related to education. The more one is educated the more is informed of existing welfare schemes. Educated people also are aware of the need for and importance of engaging in social protection programmes such as insurance and investment for future to benefit after retirements. With good education, one can understand government role in ensuring good life for its citizens.

Agriculture is the main source of revenue in the country and most of the counties. Makueni county is not an exception. Majority of people are involved in livestock keeping and farming. This provides people with source of food as well as revenue which is used to improve their welfare. Agricultural sector also creates employment among many county residents who would otherwise have been jobless. Trade and industry play an important role bettering life of the residents. This is where majority of people derive their livelihood from especially those engaging SMEs. The profits and savings obtained from business is used in feeding the family members as well as insuring them in future.

11.2 Opportunities with COVID-19 in social protection

COVID-19 exposed lack of preparedness among counties in terms of responding to the emergencies such as COVID-19 pandemic. It provided an opportunity to measure how county governments are prepared to handle the devolved functions. Health being a devolved function, it has really exposed the counties as many of them lack required health facilities such as ICU beds and enough medical personnel. The virus has also given an opportunity to develop social protection programs to cushion the vulnerable groups in the community in case of outbreak of other diseases.

11.3 Emerging Issues

Due to social distancing and curfew hours, GBV victims had limited contact with close friends and relatives who would act as the first contact persons during violence. Survivors also experienced challenges accessing healthcare services, counselling services and access shelters. These challenges underscore the need for deliberate measures at the county level to prevent and support GBV survivors in times of emergencies as experienced with the pandemic. Further, the pandemic has exposed the level of lack of comprehensive social protection at the county level.

11.4 Recommendations

COVID-19 pandemic created effects with immediate and long-term economic consequences for children, PWDs, elderly and their families. To strengthen social protection response in face of a similar pandemic, the Makueni county government to:

- i. Partner within the SEKEB block to ensure borders are manned and enhance cross border screening especially among long distance drivers. This will drastically slow the spread of the virus.
- ii. Conduct mass civic education among the people on COVID-19 prevention measures, how to handle an infected person and avoidance of stigmatization of the affected person.
- iii. Enroll more county residents in welfare programmes such as NHIF which will ensure that they access medical treatment in case of falling sick.
- iv. Give tax exemption for the SMES who have suffered losses in their business as result of diseases outbreak.
- v. Design and implement a disability grant targeting all persons who are severely disabled, and who are above the age of eligibility for the OVC grant and below the age of eligibility for the old age cash transfer grant.
- vi. Promote gender mainstreaming, protection and response against gender-based violence and FGM.

12 Labour Participation

12.1 Characteristics of the Sector

Sources of employment in the County

Agriculture is the predominant economic activity in the county. It is the leading sub sector in terms of employment, food security, income earnings and overall contribution to the socio-economic well-being of the people. Majority of the people in the county depend on the sub sector for their livelihood. The social economic impact of the novel Coronavirus resulted to loss of jobs, particularly in the informal sector which employ most people in the county. The loss of jobs in the matatu and boda boda industry had directly impacted on the lives of the youth as some residents avoided public means of transport in fear of contracting the virus. In addition, the lockdowns in Mombasa and Nairobi counties had a negative impact on long distance drivers in these sectors.

The pandemic has brought changes in the management of human resource as the county has been forced to have her employees work from home apart from those offering essential services. The private sector too has been affected, the SMEs and the agricultural sector, many companies have laid off the employees hence affecting the livelihood of the county residents.

Table 12.1: Distribution of population age 5 years and above by activity status, and sex in the county

	Male	Female	Total
Population	433,423	447,482	880,923
Working	215,558	240,733	456,299
Seeking Work/ No Work Available	20,998	11,010	32,008
Persons outside the Labour Force	196,799	195,649	392,458
Not Stated	68	90	158
<i>per cent Working</i>	<i>91.1</i>	<i>95.6</i>	<i>93.4</i>
<i>per cent Seeking Work/ No Work Available</i>	<i>8.9</i>	<i>4.4</i>	<i>6.6</i>

Source: KNBS 2019

Distribution of population age 5 years and above by activity status, and sex in the county is shown in Table 12.1 above. An assessment on the county population aged 15–64 years (labour force) was estimated at 488,307 people of whom 456,299 were working and 32,008 were seeking work representing an unemployment rate of 6.6 per cent (Kenya Population and Housing Census, 2019). However, the employment and income opportunities are affected by several challenges in the county. The major challenges pointed out in the county include lack of knowledge and skills, lack of capital among the youth, high taxation, and insecurity.

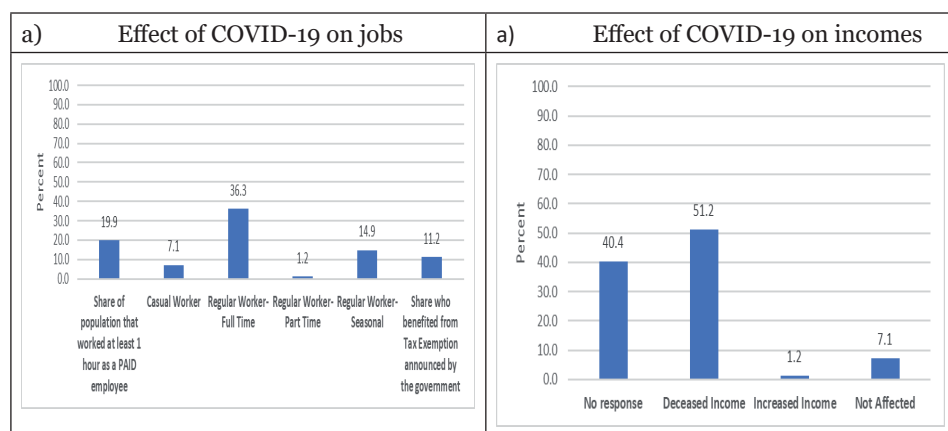
The informal sector covers small scale activities that are semi-organized, unregulated and uses low and simple technologies while employing few people per establishment.

Effects of COVID-19

The unemployment has increased during the period of COVID-19, according to the May 2020 KNBS COVID-19 Survey, 51.0 per cent of workers in Makeni county recorded having lost income and 19.9 per cent recorded working as unpaid workers. Further, 16.0 per cent of county residents did not attend to work because of COVID-19 related issues, while 1 per cent recorded not working due to closure of businesses because of the COVID-19.

During the pandemic, about 7.1 per cent of workers in the county were casual workers 36.3 per cent were regular workers (full time), 1.2 per cent employees were working as part time. However, majority of these workers (51.2%) reported decrease in income while 1.2 per cent of people reported to have experienced increased income. These could be the people working in the health sector who are supplying medical equipment such as masks and PPEs. About 11.2 per cent of workers indicated to have benefited from government tax exemptions which indicates about 88 per cent did not benefit from National government tax relief for low-income-earning persons, a reduction in the top Pay-As-You-Earn (PAYE) rate, and other changes such as cash transfers, credit relief, lower VAT, and a corporate tax cut.

Figure 12.1: Effects of COVID-19, 2020



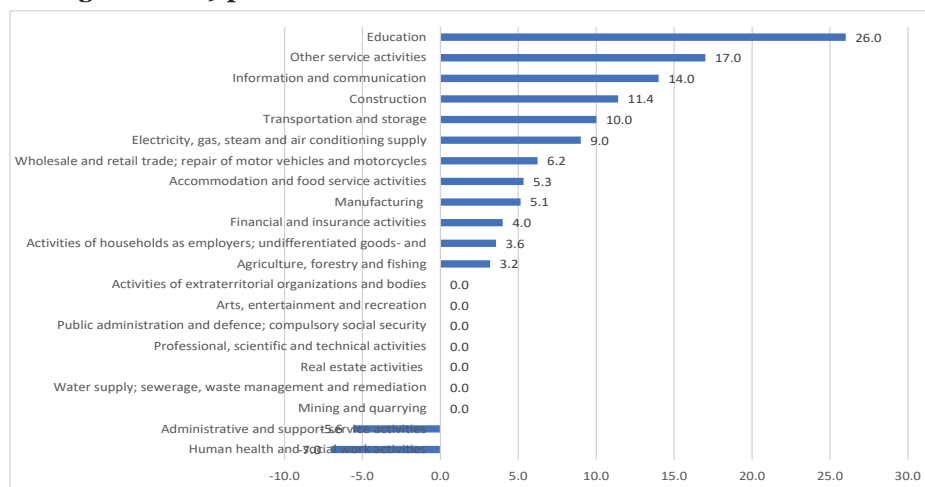
Source: May 2020 KNBS COVID-19 Survey

According to the May 2020 KNBS COVID-19 Survey, workers in education sector lost an average of 26.0 Hours worked in a week, while workers in information and communication sector lost an average of 14.0 hours worked in a week. Workers in transportation and storage sector lost an average of 10.0 hours worked while workers in wholesale and retail trade, repair of motor vehicles and motorcycles lost an average of 6.2 hours in a week. Further, workers in accommodation and food services lost an average of 5.3 hours in a week while workers in financial and insurance activities, manufacturing and construction sector lost an average of 4.0 working hours in a week, 5.1 working hours in a week and 11.4 working hours in a week. There was a negative effect on county economy from hours lost in

main economic activities of the county such as other service activities (17.0 hours in a week) and agriculture sector (3.2 hours in a week). Further, the hotel industry in the county laid off some staff due to low profits.

The labor participation rate in Makueni county declined significantly because of the pandemic. According to the KNBS, COVID-19 survey 2020, the regular work time declined by 36.3 per cent. The pandemic disrupted the workflow because of curfews and requirements for people to stay at home. The average number of hours of work available per week for employees declined in almost all sectors of the county economy (figure 3).

Figure 12.2: Difference between usual hours worked and actual hours worked during COVID-19 period



Data Source: KNBS COVID-19 Survey, 2020

Following the containment measures put in place by both national and county governments, some other businesses such as bars, hotels, market centres had totally closed, leading to reduced business activities. Some workers in the transport sector had also been rendered jobless due to restrictions of moving in and out of Nairobi and Mombasa counties. As a result, majority of workers (51 per cent) reported decrease in income due to the COVID-19. According to the May 2020 KNBS Covid-19 survey, only 1.0 per cent of people reported to have experienced increased income. The water sector indicated no loss in working hours because water was essential in mitigating the spread of the pandemic.

12.2 Opportunities with COVID-19 in human resource sector

The enhanced collaboration within the SEKEB counties is very significant for trade and inter county relations, it will also provide an opportunity to share human resource capacity building programs across such as the training of the health officers and all the frontline staffs across. Being an agricultural rich region the exploitation of the strength of each county within the block is very significant economically. The pandemic has also led to utilization of local capacity in production of masks and PPEs, which has in turn promoted growth of local industries, hence creating employment. The pandemic has also provided

an opportunity for the county government to improve the health sector and the education sector both infrastructurally but also in terms of human capacity.

The county government have been provided with the opportunity to use digital platforms to enable remote access to jobs for their employees where the Human Resource Management will have an essential role to play in navigation of the situation caused by the pandemic. There have been notable efforts by the county government to invest more money in training health workers. The county government now has an opportunity to reskill its employees and develop strategies (mid- and post-pandemic strategies) to adapt to the emerging issues.

ICT was very significant and had enabled the county programs to run smoothly since the pandemic and provided an opportunity for exploitation for adequate internet coverage especially to the education sector.

The pandemic has provided opportunity for county government to invest more money in training health workers. The economic block can serve as a market for the locally produced goods, hence creating more employments.

The pandemic has provided an opportunity for capacity building of health workers as there have been notable efforts by the county government to invest more money in training health workers. The county government now has an opportunity to reskill its employees and develop strategies (mid- and post-pandemic strategies) to adapt to the emerging issues.

12.3 Emerging issues

The COVID-19 pandemic has expedited the speed at which different firms and businesses within the county are changing their pay programmes through pay reductions and incentive resets. The county governor and his deputy experienced a 30 per cent pay cut. In addition, the County executives took a 20 per cent pay cut while county chief officers took 15 per cent pay cut.

There has been reframing of the way the county government segment its workforces to include essential and frontline workers especially in health sector. As it continues, the county to consider long-term strategies to determine which changes will be temporary versus those that will be permanent.

With the widespread stay-at-home orders, most of county employers are adjusting operations and shifting workforces online, all of which have affected overall employee well-being.

The county is not well prepared in terms of response to health-related risks such as the current COVID-19. Opportunities within the regional economic block needs to be exploited to enhance economic competitive advantage. There are emerging talents among the youths which can tapped to benefit the county especially this time of COVID-19 such as making of ICU bed, masks and PPEs. There is an increase in unemployment rate.

12.4 Recommendations

- (i) Promote implementation of stronger labour market interventions and policy reforms that drive employment creation. In addition, build capacity in areas related to marketing, operations, finance, and human resource development to enhance the chances of survival of SMEs.
- (ii) The County to deepen technical education, training and skills development, and investments within the key sectors of manufacturing, agriculture, infrastructure, tourism, technology and innovation for enhanced job creation for the youth.
- (iii) Promote training of workers in the informal sector by pursuing innovative job creation interventions and combination of non-contributory and contributory pension schemes to ensure income security even during time of crisis.
- (iv) Strengthen the capacity of workers and the employer's organizations to enhance their knowledge base and understanding of ICT skills amidst COVID-19 pandemic.

13 Conclusion and Key Recommendations

13.1 Conclusions

Fiscal policy

Economic and political crises, natural disasters (such as droughts and flooding), security challenges and health crisis (such as the COVID-19 pandemic) highlight the consequential risks and underlying vulnerabilities in national and county level budgetary and planning system. These can substantially affect public resources and in cases of weaker planning systems they may impact the nature and level of service delivery to the citizen. In 2019/20, the county generated Ksh 465.94 million from OSR, which was 8.9 per cent decrease compared to Ksh 511.70 million realized during 2018/19. The slight decline was attributed to the economic shocks triggered by the COVID-19 pandemic in the County given that various containment measures were instituted to contain the spread of corona virus. In 2020/21, the County generated Ksh 527.53 million as OSR representing an increase of 13.2 per cent compared to the amount realized in 2019/20. The improved performance was premised on the ease of the containment measures across the Country and economic recovery.

Agriculture, Livestock and Fisheries

The Agri-food analysis highlights the sector was negatively affected by COVID-19 in terms of labour supply, trade and marketing operations, food supply and the resulting effects on food prices. At the peak of the COVID-19 pandemic period, the County also suffered from livestock diseases. The County's agricultural productivity is also affected by: variable and extreme weather events; low agro-processing and value addition opportunities; water scarcity; dependence of rain fed agriculture; low access to quality and affordable inputs; low crops, livestock, and livestock products marketing opportunities; low access to major off-farm services including extension, agricultural credit and insurance, climate and market information, and credit services; and pests and livestock diseases; farm losses and post-harvest waste; and poor and inadequate infrastructure. This adversely affects the productivity of the sector and impairs marketing and consequently places livelihoods and food security at risk especially in times of emergencies. The analysis calls for strategies to enhance productivity, profitability, and resilience of the sector for improved livelihoods.

Water sanitation and hygiene

The county relies more on surface water as well as water from springs, and wells, there are few households in the urban areas with access to piped water. The county has limited

developed sewerage infrastructure in both rural, urban, and peri-urban. This presents an opportunity for the county to increase sanitation coverage to increase its additional revenue collection from sanitation services. Similarly, increased access to piped water by rural and peri-urban households can also be potential for revenue.

Manufacturing, Trade and MSMEs

Makueni County's Manufacturing, Trade and MSMEs momentum was disrupted by the COVID-19 pandemic as the containment measures associated with COVID-19 pandemic took a heavy toll on the sector. In sustaining growth and building resilience in this sector, it is important to strengthen trade and also production capacity of MSMEs and especially those involved in manufacturing in the County by exploiting opportunities afforded by the pandemic such as production of masks, PPEs, hospital beds, ventilators, reagents, gloves, and sanitizers.

Infrastructure, housing and urban development

The main means of transport used in the County is walking followed by motorbike. The paved County Road network covers 43.84km, while the paved National roads cover 343.15km. Out of the total paved road network of 386.99km, 52.87 per cent is in good condition, 45.4 per cent in fair condition and 1.57 per cent in poor condition. The status of ICT access and use in the county is low, especially among the households. approximately 98 per cent of the internet users in the county rely on mobile phone for connectivity. The high cost of internet service and cost of ICT equipment are identified as impending factors that explain why households lack internet connection. The county has relatively good quality of the housing stock. Approximately 87.3 per cent of houses are constructed using finished materials for walls, floor and roofing, compared to 12.7 per cent constructed using rudimentary materials. However, the County experienced low investment and urban development due to the pandemic effects.

Tourism

The county has diverse tourist attractions sites including archaeological sites and caves (Kisula Leviathan Caves); Mudanda rock, Makongo valley and Umani springs in Kibwezi. Undoubtedly, there are inadequate structures tourism accommodation facilities since the county does not have a star-rated provision. Sports tourism is underdeveloped due to limitation of resources and dilapidation of infrastructure for example the Wote stadium. The county has potential for enhancing tourism in the following areas which remains unexploited; Geotourism and Ecotourism this can be achieved with strong political support to remove policy bottlenecks and mobilise resources for the tourism sector. The County can create an attractive environment for investors and tourists by repairing roads and bridges connected to Umani springs, Chyulu and Nzau hills, the county to also consider upgrading major tourist centres like Tsavo West national park and Chyulu hills national park.

Health

COVID-19 has worsened the situation as far as youths and women are concerned. These are the groups of people that have been facing several challenges even before the outbreak of the COVID-19. FGM and Gender based violence cases have increased with the lock down.

Youths who are entrepreneurs have also been affected losing jobs and businesses due to the lockdown. Other problems facing youths includes teenage pregnancies, malnutrition, STI/HIV and Aids, poor environment, drug and substance abuse and malnutrition

Education and training

The County with support from stakeholders would continue to invest in early childhood development through infrastructural development to allow for adequate social distancing; deployment of ECDE teachers and provision of sanitation facilities. The county to provide financial or in-kind support, such as school feeding, to help families overcome the increased costs of attending school and provide psychosocial support to teachers and learners during and after the pandemic.

Social protection

It will be important for the County to build linkages with other Ministries, and with NGOs that work with vulnerable groups to strengthen families, deliver assistive devices, reduce barriers to access and provide vocational training. Undertake research to get a better understanding of the actual situation of disability and chronic illness in the County, and to map existing initiatives on social protection.

Human resource

The county to enhance investments and mechanisms for up skilling and reskilling, deepening technical skills as well as ICT skills; and retraining employees on how to work from home, where applicable. The county government to also protect workers in the informal economy by pursuing innovative policies to reach them quickly through a combination of non-contributory and contributory social security schemes and facilitating their transition to the formal economy in the longer term.

13.2 Key recommendations

Fiscal policy

During 2019/20, the County experienced a decrease in its total revenue to Ksh 8.77 billion as compared to 2018/19 following the adverse effects of COVID-19 pandemic. The amount realized in 2020/21 was 90.8 per cent of the annual budget allocation of Ksh 10.32 billion, an improvement from 88.4 percent attained in 2019/20. The improvement was supported by the 108.6 per cent disbursement of equitable shares from the National government. Pending bills related to development have been greater than those related to recurrent expenditure on average accounting for 69.1 per cent of the pending bills portfolio. To ensure continued recovery, the county must expedite payment of pending bills, mobilize more finances from OSR to increase the available revenues for budgetary operations, seek for more funding in form of grants from development partners to cater for the critical development projects in the county and ensure that the ongoing projects are completed before launching new project and clear any pending bills and arrears owed to suppliers. In addition, the County to mobilize more finances from OSR to increase the available revenues

for budgetary operations and seek for more funding in form of grants from development partners to cater for the critical development projects.

Agriculture, Livestock and Fisheries

To successfully build resilience and enhance growth of the agriculture sector, the County to: enhance agricultural extension services; explore partnerships to develop agro-processing and value addition capacities at the County; expansion of water harvesting projects and sustainable irrigation; scale up conservation agriculture, post-harvest management, plant and keep drought-tolerant crops and livestock breeds; link farmers to diverse product markets; strengthen the County's institutional capacity in disaster surveillance and management; enhance farmers access to critical agricultural inputs and services and build their technical capacity to act on information obtained; provision of storage and cooling facilities; natural resource management; and strengthen agricultural cooperatives to enhance marketing.

Water sanitation and hygiene

To build resilience and mitigate the effect of COVID-19, the county to; increase water supply in households, institutions, and public places through drilling of boreholes, dams, and access to piped water in all the sub-counties. Promote the use of safe and improved toilets in schools, health care facilities, workplaces, and public places by connecting households to piped sewer. Promote handwashing as a measure to contain the spread of COVID-19.

Manufacturing, Trade and MSMEs

In sustaining growth in the Manufacturing, Trade and MSMEs sector, the County to be: Promoting access to affordable financing with emphasis on strengthening the *Tetheka* Fund and other self-sustaining funds dedicated and easily accessible to MSMEs in the County; Promoting tailor made financial literacy programmes for MSMEs and establishing a framework for micro-leasing for the MSMEs; Enhancing skills for MSMEs by strengthening the link between curricula and practical skill sets required in the industry in all learning institutions and centres for vocational training in Makueni County; Providing access to affordable renewable energy in collaboration with the national government and other stakeholders for sustainable development; Providing for worksite and related infrastructure through partnership with other institutions both from public and private spheres to facilitate development of adequate and well-equipped worksites with workshops, common user facilities, incubation centres and showrooms for artisans which is cluster informed and fully serviced. Worksites and market centres to have adequate waste disposal and toilet facilities for use by MSEs to maintain hygiene and health standards; Harmonizing the number of licenses and permits obtained by MSEs so as to streamline the operational requirements and improve the business environment; Establishing partnerships with neighbouring counties to facilitate trade and widen the market scope; Enhance market access for private sector both locally and regionally by developing the regional bloc value chains, market diversification and facilitating greater use of e-commerce in shifting transactions to digital economy; Establish an emergency rescue package for businesses and traders hard-hit by the effects of COVID-19 in the short run. The emergency Fund, supported by development partners and other stakeholders, can

be used to identify and support the most vulnerable businesses and entrepreneurs affected by COVID-19. Related, the County to inject some stimulus to cushion the businesses and traders through affordable credit; waiver of some County taxes, cess, and other charges; COVID-19 has increased demand for locally produced goods in the County, and especially Personal Protective Equipment (PPEs), sanitisers, hospital beds and ventilators. It is an opportunity to spur innovation and promote manufacturing and industry development and generation of jobs for the youth; Fast track establishment of an industrial park in Mtitio Andei along the SGR line; and Promote the sisal cottage industry.

Infrastructure, housing and urban development

In response to the prevailing challenges, key recommendations include Improve and expand infrastructure for Non-Motorized Transport (NMT) in urban areas and along roads with heavy high speed traffic to promote sustainable mobility options and enhance road safety for all road users; Support programmes in partnership with the private sector that will enable households acquire ICT assets such as smart phones and laptops and increase mobile phone ownership; and Fast-track designation of Emali, Wote and Makindu as urban centers pursuant to provisions of the Urban Areas and Cities (amendment) Act, 2019.

Tourism

On the recovery strategy; the County government to Increase allocation of annual total budget to tourism development to enable construction of modern theatre and art gallery to support development of talent in music, visual and performing arts; marketing of sculpture and handicrafts; and upgrading of sports stadia to develop talents in sports; Enhance investment in infrastructural development to promote more conducive environment for the housing sector particularly in the tourist attraction centres; Enforce sanitation and hygiene standards in all accommodation facilities and tourist attraction sites in line with the national guidelines for reopening of hospitality establishments in order to ensure business continuity; Conduct research on potential areas for investment in tourism to catalogue information on existing and potential tourism products in each sub county; branding and marketing tourism products; hosting promotional events such as annual tourism and trade investment expos and M.I.C.E. events

Health

For a resilient health sector, there is need for more awareness on immunization so that mothers can ensure their children get immunized. Implement a comprehensive human resource health management system including undertaking training needs assessments and information system to ensure skilled and motivated health care workers, equitable deployed across all sub-counties. This is in addition to paying the salaries in time to avoid cases of strikes and low staff morale. Recruit additional of public health officers and community health workers to strengthen preventive and public health systems.

Education and training

The County with support from stakeholders will need to continue to invest in early childhood development through infrastructural development to allow for adequate social

distancing; deployment of ECDE teachers and provision of sanitation facilities. The county would put up measures that encourage learners to complete all levels of education.

Social Protection

COVID-19 pandemic created immediate and long-term economic consequences for vulnerable groups including children, PWDs, elderly and their families. In an effort to strengthen social protection response in face of a similar pandemic, the county government to need to provide basic income security, especially for persons whose jobs or livelihoods have been disrupted by the pandemic. Build linkages with other Ministries, and with NGOs that work with people with disabilities to strengthen families, deliver assistive devices, reduce barriers to access and provide vocational training.

Human resources

The COVID-19 pandemic has expedited the speed at which different firms and businesses within the county are changing their pay programmes through pay reductions and incentive resets. It will be important for the County to promote implementation of a stronger labour market interventions especially those working tea sector which is a major employer in Makueni County and policy reforms that drive employment creation. The County shall deepen technical education, training and skills development.

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