

# MAM 2025 ADVISORIES REPORT FOR MAKUENI COUNTY



KENYA  
METEOROLOGICAL  
DEPARTMENT



## ADVISORIES FOR THE MARCH - MAY 2025 (MAM 2025) SHORT RAINS SEASON

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# 1 MAM 2025 Seasonal Weather Forecast.

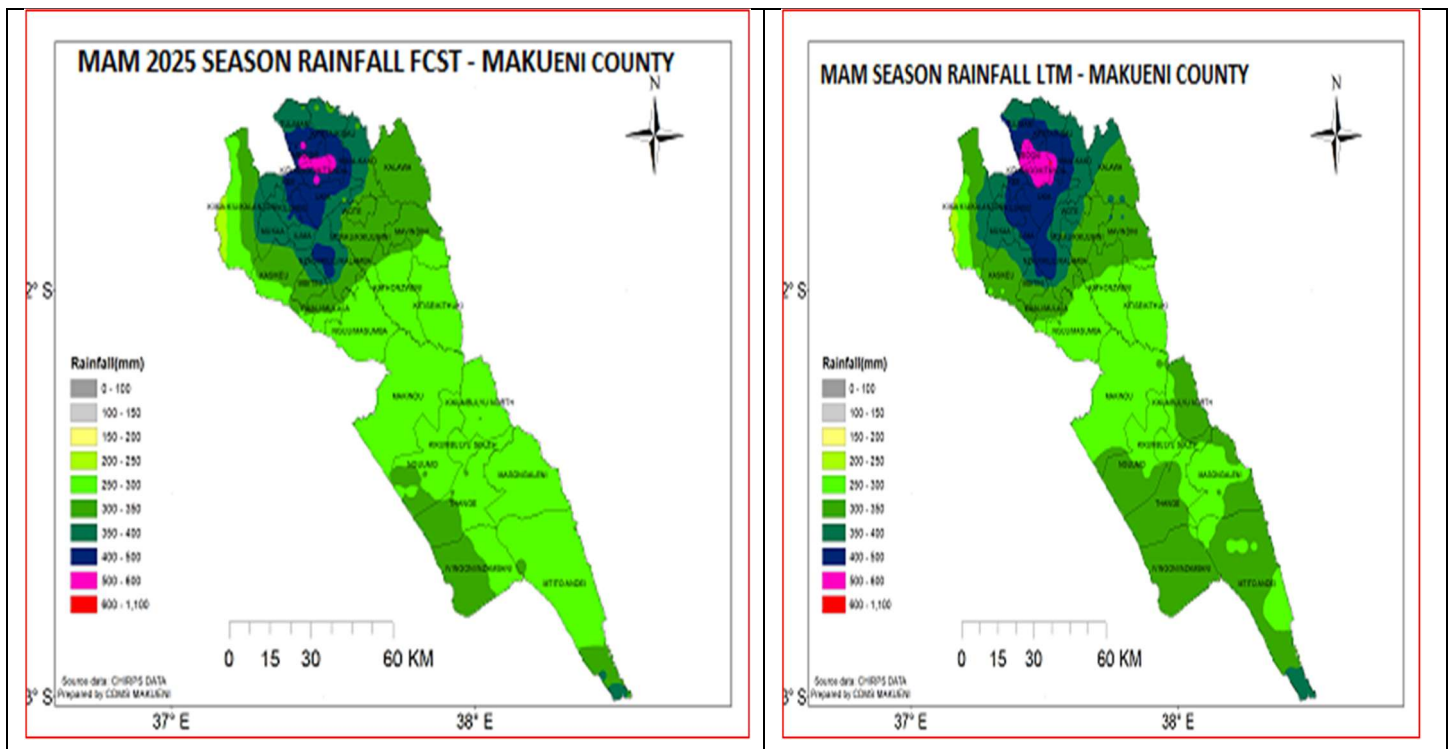
## 1.1 Highlights

- The MAM 2025 rainy season is expected to be Near Normal (N) to Below Normal (B) with onset expected between 24<sup>th</sup> March to 6<sup>th</sup> April, 2025.
  - The rainfall distribution both in time and space is expected to be poor to fair in most wards within Makueni County.
  - Occasional heavy rainfall events that are likely to trigger flooding are also predicted to occur as the season progresses.
  - Long dry spells are also predicted to occur during the season.
  - Peak rainfall is predicted during the month of April 2025.
  - The predicted cessation dates is between 19<sup>th</sup> to 31<sup>st</sup> May, 2025.

## 1.2 Probable total Seasonal Rainfall

- Amount Ranges: 200-250 mm; 250-300 mm; 300-350 mm; 350-400 mm; 400-500 mm; 500-600.

## MARCH – APRIL - MAY 2025 SEASONAL FORECAST



### 1.3 Summary of the MAM 2025 Seasonal Forecast by Wards

#### Summary of the MAM 2025 Seasonal Forecast by Wards.

S/N o.	Sub County	Ward/ Climatic zone	Seasonal Amount in mm		Probable Cessation dates	Probable Length of Rain Period	Probable distribution
			Normal (Long term mean 1991- 2020)	Forecast for MAM 2025			
1	Makueni	Kitise / Kithuki	250-300	250-300	Between 19 <sup>th</sup> to 31 <sup>st</sup> May 2025	45 - 70 days	Occasional dry spells coupled with occasional heavy rainfall events within the rain season that could affect vulnerable crops. “
2		Kathonzweni	250-350	250-350			
3		Mavindini	250-350	250-350			
4		Nzau / Kilili/Kalamb a	300-500	300- 500			
5		Muvau / Kikumini	300-400	300-400			
6		Wote	300-400	300- 400			
7		Mbitini	300-400	300-400			
8	Kibwezi East	Masongaleni	250-350	250-300			
9		Nzambani / Ivingoni	250-350	250-350			
10		MtitoAndei	250-350	250 -350			
11		Thange	250-350	250-350			
12	Kibwezi West	Makindu	250-350	250-300			
13		Mulala / Emali	250-350	250- 400			
14		Nguu / Masumba	250-350	250-350			
15		Nguumo	250-350	250-350			
16		Kikumbulyu North	250-350	250-300			
17		Kikumbulyu South	250-350	250-300			
18	Kilome	Kasikeu	300-400	250-400			
19		Kiima/Kiu	200-400	200-400			
20		Mukaa	300-400	300-400			
21	Mbooni	Tulimani	350- 500	350-500			
22		Mbooni	400 - 600	400-600			
23		Kako/Waia	350-500	300-400			
24		Kalawa	300-400	300-350			
25		Kisau/Kiteta	350- 600	350-600			
26		Kithungo/Kit undu	400 - 600	400-600			
27	Kaiti	Kilungu	350- 500	350-500			
28		Ukia	350- 600	350-500			
29		Ilima	350-500	350-500			
30		Kee	350- 500	350-500			

## 1.4. Recommendations

### i) Choosing the right crops to plant:

- To minimize risks, choose the crops whose seasonal crop water requirement is within the lower limit value of the predicted range.
- Risk of long dry Spells within the rainy period:
  - At the moment we cannot reasonably predict the actual length of the dry spells and their impacts on various crops.
  - We therefore advise farmers to choose crops that are least vulnerable to such long dry spells
- Length of the rainy period(LRP):
  - The exact length of soil moisture is slightly higher than the LRP depending on crop type, soil type and the amount of moisture at the time of cessation.
  - Choose the crop whose length of growing period to maturity is not too far from the LRP.

### ii) Onset dates versus planting dates:

- For those wishing to dry plant, it is advisable to plant within one week before the predicted onset dates.
- For those wishing to wet plant, it is advisable to wait for the weekly weather update which is more accurate.
- Wet Plant when the **weekly forecast** indicates at least **3 days** with rain of a total amount **greater than 20 mm**.

## 2 Agro-Weather Advisories

### 2.1 General Responsibilities

- Farmers to implement the advisories
- Agricultural Extension Officers to advise farmers
- Input suppliers to ensure inputs are available on time
- Community Extension Volunteers to advise farmers
- Kenya Met. Department to provide weather updates (weekly, alerts, updates)
- Agriculture, Livestock and Fisheries department to continuously assist farmers.
- Insurance companies to provide crop and livestock insurance where applicable.

### 2.2 General Farm Activities

- Early land preparation: Third week of March 2025.
- Repair of soil and water conservation structures: Terraces, Zai Pits, Basins
- Repair of water storage structures: De-silting of farm ponds, weirs, water tanks, water pans, gutters
- Practices: Conversation Agriculture (CA): Ripping, Planting stations.
- Pre-germination (seed soaking); Seed preparation
- Scale up manure and fertilizer application (basal & top dressing)
- Timely weed control
- Timely and proper pests and disease control.
- Proper spacing of crops
- Plant ecologically suitable certified seeds as indicated above
- Pitting for fruits and forest Trees

## 2.3 When to Plant

- Dry plant at least one week before the predicted onset dates or Wet Plant when the **weekly forecast** indicates at least **3 days** with rain of a total amount **greater than 20 mm**.

## 2.4 Specific agro-weather Advisories for the Upper zones

Crop varieties to plant	Ukia Ward Probable MAM 2025 Seasonal Amount: <b>350 - 500 mm</b>	Mbooni Ward Probable MAM 2025 Seasonal Amount: <b>400 - 600 mm</b>	Kithungo/Kitundu, Kilungu, Ilima, Kee Wards Probable MAM 2025 Seasonal Amount: <b>350 – 600mm</b>
1. Maize	DHO <sub>2-4</sub> , Sungura, Kishindo, Haraka, Duma series, Pioneer and DK series, PANNAR3M-05, Tosheka, Tsavo	Same crops	Same crops
2. Beans	Kat B1, GLP 92, KatX56, Kat B9, Locals, KatX69, Nyota, Faida, Angaza	Same crops	Same crops
3. Cow Peas	K80, M66, Locals Ken Kunde, Kunde mboga, Kunde Tamu, Kunde Soko	Same crops	Same crops
4. Pigeon peas	Maintain the existing short rains crop; - ICEAP 00936, ICEAP 00554, Mpesa, Mituki	Same crops	Same crops
5. Dolichos	Maintenance of existing crop (DL 1002, DL 1009)	Same crops	Same crops
6. Cassava	Maintenance of existing crop (KME 1, Mucericeri, KME 61, Red Stemmed Varieties, Locals)	Same crops	Same crops
7. Sweet potatoes	Maintenance of existing crop (Locals, KSP 20, Kemp 10, SPK 004 )	Same crops	Same crops
8. Sorghum	Gadam, Serena, Seredo, Kari Mtama 1, Kari Mtama 2, Macia, Sila, local varieties	Same crops	Same crops
9. Millets	Finger millet, Pearl Millet varieties PM 1, PM2, PM3	Same crops	Same crops
10. Sunflower	KENYA FEDHA, 8998, HYSUN 33	Same crops	Same crops

## Specific Advisories for Livestock Sector – Upper Zone

	Recommended Actions
Activities on Livestock Sector	<b>Pastures/Fodder to be established</b> <ul style="list-style-type: none"> <li>• Cow peas (M66)</li> <li>• Desmodium</li> <li>• Calliandra</li> <li>• Sudan grass</li> <li>• Bracharia species</li> <li>• Sorghum Fodder</li> <li>• Pennisetum species (forage millet)</li> <li>• Cenchrus ciliaris</li> <li>• Napier grass (hybrid varieties)</li> </ul>
	<ul style="list-style-type: none"> <li>✓ Creating awareness to enhance the preparedness of the community</li> <li>✓ Ration feeding/Paddock/conservative feeding</li> <li>✓ Destocking for appropriate carrying capacity.</li> <li>✓ Adopt Home feed formulations.</li> <li>✓ Breed management</li> <li>✓ Rehabilitation of Existing and establishment of new water harvesting structures</li> </ul>

	<ul style="list-style-type: none"> <li>✓ Bush management for pasture improvement</li> <li>✓ De-worming</li> <li>✓ Tick control</li> <li>✓ Vaccinate the animals against weather related diseases (RVF, Anthrax)</li> <li>✓ Proper housing for livestock protection.</li> <li>✓ Timely harvesting and preservation of pastures, fodder and water</li> <li>✓ Rehabilitation of fish ponds</li> <li>✓ Restocking of fish ponds.</li> <li>✓ Supplemental animal feeding</li> <li>✓ Facilitating livestock offtake</li> <li>✓ Preservation and use of crop residues</li> <li>✓ Hoof trimming, tail docking and dehorning</li> <li>✓ Creating awareness on livestock insurance eg. DRIVE</li> <li>✓ Increased disease surveillance</li> </ul>
	<ul style="list-style-type: none"> <li>● Proper housing</li> <li>● De-worming</li> <li>● Tick control</li> <li>● Restocking of fish ponds</li> <li>● Rehabilitation of fish ponds</li> </ul>

## 2.5 Specific agro-weather Advisories for the Middle zones

<b>Crops to plant</b>	<b>Wards:</b> <b>Tulimani, Kako/Waia, Kisau/Kiteta, Mukaa, Kasikeu, Nzaui/Kilili/Kalamba, Emali/Mulala, Wote/Nziu, Mbitini, Muvau/Kikumini, Kiima Kiu/Kalanzoni.</b> <b>Probable MAM 2024 amount:</b> <b>300-400 mm</b>
1. Maize	DUMA 43, DH01, DH02, KISHINDO, SUNGURA, DK 8031, HARAKA
2. Beans	KAT B1, KAT X56, NYOTA, KATB9, GLP 92, KATX69, NYOTA, FAIDA, ANGAZA
3. Green/Black Grams	BIASHARA, KAREMBO, KS20, N26, NDENGU TOSHA
4. Cow peas	K80, M66, KUNDE SOKO, KUNDE TAMU, KVVU-27-1, M66, KEN KUNDE, BLACK EYE (Kang'au), KUNDE MBOGA
5. Dolichos	DL1002, DL1009
6. Sorghum	GADAM, KARI MTAMA 1, KARI MTAMA 2, SEREDO, MACIA, SERENA, SILA
7. Millets	KAT PM-1, 2, 3.
8. Finger Millet	LOCAL VARIETIES

## Specific Advisories for Livestock Sector – Middle Zone

	Recommended Actions
Activities on Livestock Sector	<b>Pastures/Fodder to be established</b> <ul style="list-style-type: none"> <li>• Sorghum Fodder</li> <li>• Sudan grass</li> <li>• Bracharia species</li> <li>• Cenchrusciliaris (Ndatakivumbu)</li> <li>• EragrostisSuperba (Mbeetwa)</li> <li>• Forage sweet potato</li> <li>• Pennisetum species (forage millet)</li> <li>• Lucerne</li> <li>• Dolichos lablab</li> <li>• Nappier grass (hybrid varieties)</li> <li>• Chloris Roxburghiana (Kilili)</li> <li>• Cow peas(M66)</li> </ul>
	<ul style="list-style-type: none"> <li>✓ Creating awareness to enhance the preparedness of the community</li> <li>✓Destocking for appropriate carrying capacity</li> <li>✓ Adoption of home feed formulation</li> <li>✓Ration feeding/Paddock/conservative feeding</li> <li>✓ Breed management</li> <li>✓ Rehabilitation of Existing and establishment of new water harvesting structures</li> <li>✓ Bush management for pasture improvement</li> <li>✓ De-worming</li> <li>✓ Tick control</li> <li>✓ Vaccinate the animals against weather related diseases (RVF,Anthrax)</li> <li>✓ Proper housing for livestock protection.</li> <li>✓ Timely harvesting and preservation of pastures, fodder and water</li> <li>✓ Rehabilitation of fish ponds</li> <li>✓ Restocking of fish ponds.</li> <li>✓ Supplemental animal feeding</li> <li>✓ Facilitating livestock offtake</li> <li>✓ Preservation and use of crop residues</li> <li>✓ Hoof trimming, tail docking and dehorning</li> <li>✓ Creating awareness on livestock insurance eg. DRIVE</li> <li>✓ Increased disease surveillance</li> </ul>
	<ul style="list-style-type: none"> <li>•Proper housing</li> <li>•De-worming</li> <li>•Tick control</li> <li>•Restocking of fish ponds</li> <li>•Rehabilitation of fish ponds</li> </ul>

## 2.6 Specific agro-weather Advisories for the Lower Zone

Crops to plant	<b>Wards:</b> Makindu, Nguu/Masumba, Kalawa, Kikumbulyu South, Kikumbulyu North, Nguumo, Thange, Nzambani/Ivingoni, Mavindini, Kathonzweni, Kitise/Kithuki, Masongaleni, Mtito Andei, <b>Probable MAM 2025 amount:</b> 250-350 mm
1.Maize	No variety recommended due to the forecast erratic rainfall for Lower Zone
2.Beans	No variety recommended due to the forecast erratic rainfall for Lower Zone
3.Green Grams	N26, KS20, Biashara, Karembo and Ndengu Tosha
4.Cow Peas	K80, M66, KVVU419, , KVVU27-1,Locals (Kangau), Ken Kunde, KUNDE Soko,Kunde Mboga
5.Sorghum	Gadam, Kari Mtama 1 & 2, Serena,Serendo,Sila, locals, Kamani
6.Pearl Millet	PM1,PM2,PM3
7.Sunflower	KENYA FEDHA ,H998, HYSUN 33
8.Sweet potatoes	Locals, KSP 20, Kemp 10, SPK 004 local Kingee,(areas along chyulu hills)with water harvesting structures and earthing up
General Farm Activities	Practice Conservation Agriculture(zai pits, ripping,mulching,crop rotation) <ul style="list-style-type: none"> <li>● Early land preparation,</li> <li>● Repair soil and water conservation structures,</li> <li>● Repair of storage water structures e.g farm ponds, weirs, water tanks,</li> <li>● Dry planting.</li> <li>● Timely seeds acquisition,</li> <li>● Scale up manure and fertilizer application,</li> <li>● Timely weed control, Timely and proper pests and disease control, water harvesting and irrigation.</li> <li>● Proper spacing of crops</li> <li>● Plant certified seeds.</li> <li>● Practice water conservation technologies e.g-Zai pits, Trapezoidal bands</li> <li>● Procure crop insurance in case of loss</li> </ul>
8.Pasture Grass/Fodder Shrubs	Ratoon pasture grasses such as NdataKivumbu ( <i>EragrostisSuperba</i> ), <i>BrachariaMulato</i> , Boma Rhodes, Sugar Graze, Nutri-feeds, <i>Panicum species</i> (Mbwea) , Masai Love Grass etc.

### General Activity Plans

S/No.	Activity	When	By Whom	Remarks
1.	Land preparation	Ongoing until 21/3/2025	Farmers Service Providers	Use of CA is recommended
2.	Dry planting	Ongoing until 21/3/2025	Farmers Service Providers	Use of recommended certified seeds and plant varieties Application of manures and fertilizers
3.	Wet planting	22/3/2025 – 04/4/2025	Farmers Service Providers	Use of recommended certified seeds and plant varieties Application of manures and fertilizers
4.	Gapping, Thinning & Weeding	1 <sup>st</sup> – 2 <sup>nd</sup> Week of April, 2025	Farmers Service Providers	Continuous activity
5.	Pest and Disease Control	From 1 <sup>st</sup> Week of April, 2025	Farmers Spray Service Providers	Adherence to spray programs Continuous consultation with Agriculture Extension Officers
6.	Harvesting	From 3 <sup>rd</sup> week of May 2025	Farmers Service Providers	Harvest at physiological maturity
7.	Post-harvest management and	From 1 <sup>st</sup> Week of June	Farmers	Grains to be dried to the



	Marketing	2025	Service Providers Marketing agents	recommended moisture content (13.5% for cereals) Drying of vegetable leaves
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## 2.7 General Analysis of Hazards/Risks and Opportunities (Agriculture)

Risks	<ul style="list-style-type: none"> <li>• Drought</li> <li>• Famine</li> <li>• Destruction of infrastructure due to occasional heavy rains</li> <li>• Human wildlife conflicts</li> <li>• Resource based conflicts</li> <li>• Reduced crop yields</li> <li>• Low water levels</li> <li>• Forest fires</li> <li>• Increased incidences of pests and diseases</li> <li>• Domestic violence</li> <li>• Prostitution</li> </ul>	Governments at both levels NGOs Farmers Kenya Red Cross KMD
Opportunities	<ul style="list-style-type: none"> <li>• Pasture/feed conservation</li> <li>• Proper post-harvest management of the previous harvest</li> <li>• Water harvesting</li> <li>• Adoption of Climate Smart Agriculture technologies/Good Agricultural Practices (GAPs)</li> <li>• Hay harvesting</li> <li>• Water trucking/Vending</li> <li>• Crop insurance</li> <li>• Water harvesting</li> <li>• Business opportunities for Agro-dealers and farmers</li> <li>• Opportunities for tree planting</li> <li>• Livestock insurance</li> <li>• Dissemination of Agro-Weather advisories</li> <li>• Increase in hay trade</li> <li>• Silage production</li> <li>• Water business</li> </ul>	Governments at both levels NGOs Insurance Service - Providers Farmers Service Providers Input Suppliers
Impacts	<ul style="list-style-type: none"> <li>✓ Food and nutrition insecurity</li> <li>✓ Low crop yields</li> <li>✓ Limited availability of pasture and browse</li> <li>✓ High cost of hay</li> <li>✓ High cost of living</li> <li>✓ Poverty</li> <li>✓ Increased incidences of human wildlife conflicts.</li> <li>✓ Poor performance in schools</li> <li>✓ Early marriage &amp; unplanned pregnancies</li> <li>✓ High incidences of divorce</li> <li>✓ HIV/AIDS increase</li> <li>✓ Increase in school dropout rates</li> </ul>	Governments at both levels NGOs Farmers

## 2.8 Specific advisories for Livestock farmers

	Recommended Actions	Responsible
Activities on Livestock	<b>Pastures/fodder to be establishment</b> <ul style="list-style-type: none"> <li>• <i>Panicum maximum</i> (Mbwea)</li> <li>• <i>Chloris Roxburghiana</i> (Kilili)</li> <li>• <i>Pennisetum species</i> (forage millet)</li> <li>• <i>Cenchrusciliaris</i> (Ndatakivumbu)</li> <li>• <i>Eragrostissuperba</i>(mbeetwa)</li> </ul>	Farmers WLPOs Community Extension Volunteers Input suppliers
	<ul style="list-style-type: none"> <li>• Ration feeding/paddock/conservation feeding</li> <li>• Ratooning pasture grasses such as <i>EragrostisSuperba</i> (NdataKivumbu)</li> <li>• Destocking for appropriate carrying capacity</li> <li>• Adoption of home feed formulation</li> <li>• Breed management</li> <li>• Rehabilitation of existing and establishment of new water harvesting structures</li> <li>• Bush management for pasture improvement</li> <li>• De-worming</li> <li>• Tick control</li> <li>• Vaccination of livestock against weather related diseases (e.g. RVF, Anthrax )</li> <li>• Proper housing for livestock</li> <li>• Timely harvesting and preservation of pastures and fodders</li> <li>• Rehabilitation of fish ponds</li> <li>• Restocking of fish ponds</li> </ul>	WLPOs Farmers Community extension volunteers Service providers

## 3 Advisories for Other Livelihood Sectors

SECTOR	Impact	Hazards/ Risks	Opportunity	Intervention/Action plan	Responsible
Water resources	<ul style="list-style-type: none"> <li>• Reduced water levels in rivers and reservoirs</li> <li>• Drought</li> <li>• Low recharge of aquifers</li> <li>• Below normal</li> </ul>	<ul style="list-style-type: none"> <li>• Drought</li> <li>• Insecurity</li> <li>• Drying up of planted trees</li> <li>• Forest fires</li> <li>• Reduced livestock feeds</li> <li>• Low water levels</li> </ul>	<ul style="list-style-type: none"> <li>• Water harvesting &amp; conservation</li> <li>• Pasture/feed conservation</li> <li>• Water business</li> <li>• Conflict resolution</li> </ul> <p>Good working relations between</p>	<p>Water trucking, Adopt Water harvesting structures e.g. dams ,ponds ,water tanks and roads for water.</p> <p>Frequent servicing of boreholes and fuel subsidy</p> <p>Enhance conflict management</p>	KWS, NDMA, WRA, Community, Dept. of water, Sanitation & Irrigation, Department of Agriculture, Livestock, Irrigation and development

	<p>stream flows</p> <ul style="list-style-type: none"> <li>• Food insecurity</li> <li>• High cost of living</li> <li>• Increase in resource based conflicts</li> <li>• High crime rates</li> <li>• Increased school dropout rates</li> <li>• Gender Based Violence</li> </ul> <p>Anticipated flash floods may cause flooding in flood prone areas</p> <p>Compromised water quality</p>	<p>in water sources</p> <ul style="list-style-type: none"> <li>• Resource based conflicts increase</li> <li>• Increased human-wildlife conflicts</li> </ul> <p>Increased human-human conflict</p> <p>Increased vandalism</p> <ul style="list-style-type: none"> <li>• Increased incidences of pests and disease outbreak</li> </ul> <p>Anticipated breaching of dams</p>	<p>Government and partners</p> <p>Existence of a contingency plan</p>	<p>strategies,</p> <p>Public awareness on water conservation</p> <p>Water abstraction surveys</p> <p>Enforcement of water allocation plans</p> <p>Water rationing</p> <p>Strict adherence to water rationing schedules</p> <p>Activate the contingency plan</p> <p>Use efficient irrigation methods</p> <p>Adherence to irrigation schedules</p> <p>Enhance water treatment at household level</p> <p>Use alternative green energy power sources ( solar energy)</p> <p>Promote kitchen gardens at household and institutional level</p> <p>Close monitoring of river flows and especially for those originating outside the County</p>	<p>Partners</p>
Disaster Management	Drought	<ul style="list-style-type: none"> <li>• Famine</li> <li>• Water scarcity</li> <li>• Crop failure</li> <li>• Migration of livestock and wild animals</li> <li>• Resource based</li> </ul>	<ul style="list-style-type: none"> <li>• Anticipatory planning</li> <li>• Early warning systems</li> <li>• Existence of Drought contingency plans</li> </ul>	<ul style="list-style-type: none"> <li>• Sensitization and disseminating of early warning information for anticipatory action</li> <li>• Enhance awareness</li> </ul>	<p>N. Govt (NDMA, KWS, KMD, NGAO, KFS, Social Protection, Education)</p> <p>C. Govt. (DRM,</p>

		<p>conflicts/insecurity</p> <ul style="list-style-type: none"> <li>• Human wildlife conflicts</li> <li>• Increased incidence of crop pest and diseases</li> <li>• Human and livestock diseases</li> <li>• Forest and wildland fires</li> <li>• Land degradation and deforestation</li> <li>• School drop outs</li> <li>• Child protection issues</li> <li>• Gender based violence</li> <li>• Interference with socio-economic activities</li> </ul>	<ul style="list-style-type: none"> <li>• Existence of peace/ conflict resolution and DRR committees</li> <li>• Coordination and synergy across sectors (CSG)</li> <li>• National and county emergency funds</li> <li>• Policy and institutional frameworks.</li> </ul>	<p>campaigns on water conservation and drought risks</p> <ul style="list-style-type: none"> <li>• Embrace partnerships and collaboration</li> <li>• Adhere to agro-weather advisories to plant the appropriate crops</li> <li>• Properly dry and store harvested grains</li> <li>• Embrace water-saving techniques such as rainwater harvesting, efficient irrigation systems and conservation practices</li> <li>• Enhance appropriate water harvesting, distribution and storage techniques</li> <li>• Ensure proper management and maintenance of water resources</li> <li>• Adoption of technology-based water solutions</li> <li>• Promote adoption of livestock insurance</li> <li>• Promote planting of drought-tolerant crops</li> <li>• Embrace Integrated soil fertility management</li> <li>• Enforcement of the relevant acts</li> <li>• Activation of the emergency/contingency plans</li> <li>• Carry out routine vaccination and timely pest and</li> </ul>	<p>Water, Health, Agriculture, Livestock, Education)</p> <p>NGOs</p> <p>Private actors</p> <p>CBOs</p>
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				<p>disease management</p> <ul style="list-style-type: none"> <li>Foster cohesion by addressing conflicts and child protection issues</li> </ul> <p>Provision of social safety nets to cushion vulnerable populations during drought periods.</p> <ul style="list-style-type: none"> <li>Issue warnings well in advance through various channels. Alerts should include evacuation notices, safety instructions, and specific locations at risk</li> <li>Effective maintenance of drainage systems to reduce water accumulation and prevent flash floods</li> <li>Awareness campaigns on the risks of flash floods and mudslides</li> <li>Embrace soil conservation practices, such as terracing, cover crops, and mulching, to reduce erosion and the risk of mudslides, especially in hilly areas</li> <li>Trim trees near power lines and infrastructure to prevent them from falling during high winds, causing power outages or</li> </ul>	
	Flash floods, mudslides & Strong winds.	<ul style="list-style-type: none"> <li>Displacement</li> <li>Destroyed infrastructures</li> <li>Loss of lives and livelihoods</li> </ul> <p>Outbreak of water borne diseases.</p>	<ul style="list-style-type: none"> <li>Anticipatory planning</li> <li>Early warning system</li> <li>Existence of Flood contingency plans</li> <li>Coordination and synergy across sectors (CSG)</li> <li>National and county emergency funds</li> </ul> <p>Policy and institutional frameworks.</p>		<p>Nat. Govt (NGAO, KFS, KPLC)</p> <p>C. Govt (DRM, Water, Health, Agriculture, Environment)</p> <p>NGOs (KRCS)</p> <p>Private actors</p>

				<p>infrastructure damage</p> <p>Strengthen utility poles and transformers to resist wind damage.</p>	<p>CBOs</p> <p>Community.</p>
<p>Environment Sub Sector</p>	<p>Reduced Soil Moisture</p> <p>Increased Soil Erosion</p> <p>Water Scarcity</p> <p>Dust and Air Quality Issues</p>	<p>Loss of community livelihoods</p> <p>Reduced crop production and productivity</p> <p>Water scarcity and reduced river flows.</p> <p>Increased dust and air pollution.</p> <p>.</p>	<p>Strengthening Community Resilience programs on climate-smart agriculture (e.g., drought-resistant crops, conservation agriculture and indigenous trees like acacia and <i>Meliavolkensii</i>) to ensure food security.</p> <p>Public-Private Partnerships: Encourage collaboration between the government, NGOs, and local communities to implement adaptation programs.</p>	<p>Water Harvesting and Storage: Promote rainwater harvesting techniques like farm ponds, water pans, and rock catchments to store water for domestic and agricultural use.</p> <p>Soil Conservation Measures:</p> <p>Sustainable Land Use Practices</p> <p>Early Warning Systems: Strengthen climate monitoring and dissemination of seasonal weather forecasts</p>	<p>National Government.</p> <p>1. Kenya meteorological Department (KMD)</p> <p>2. National Drought &amp; Management Authority (NDMA)</p> <p>3. Kenya Forest Service (KFS)</p> <p>Kenya Wildlife Service (KWS)</p> <p>Water Resource Authority (WRA)</p> <p>County Government.</p> <p><i>Makueni Climate Change Fund (MCCF)</i></p>
<p>Wildlife Sub Sector</p>	<p>Limited Water Availability.</p> <p>Reduced Vegetation for Grazing</p> <p>Increased Competition and Predation.</p>	<p>Wildlife deaths</p> <p>Loss of Biodiversity</p> <p>Increased Human-wildlife conflicts</p> <p>Water and food shortage for wildlife.</p>	<p>Disaster Preparedness and Response Plans: Develop contingency plans for extreme weather events, including drought preparedness strategies and Wildlife investment programs</p>	<p>Protection of Water Points</p> <p>Wildlife Corridors and Buffer Zones- Establish migration corridors to allow animals to access alternative grazing and water sources.</p> <p>Community Awareness and Conflict Mitigation: Educate communities</p>	<p>Community- Based Organizations (CBOs) &amp; Local groups</p> <p>Non – Governmental Organizations and development Partners</p> <p>Kenya Red Cross Society (KRCS)</p> <p>Private Sector &amp; Research Institutions</p>

<b>Forestry Sub Sector</b>	Slower Tree Growth	Failed restoration program	Training and capacity building of community members on sustainable forestry, agro forestry	on peaceful co-existence with wildlife	KARLO  South eastern Kenya University (SEKU)  Local Communities & Individuals.  Farmers & pastoralists  Youth and Women Groups  Traditional Leaders & religious Institutions
	Increased Fire Risk		Carbon trading and green projects including tree planting and conservation efforts to attract carbon credit investments and donor funding for environmental conservation. Multi-Stakeholder Platforms- Bringing together government agencies, CBOs and other institutions.	Establish mechanisms for reporting wildlife-related challenges.  Supplementary Feeding in Critical Areas:  Reforestation and Agro-forestry: Promote the planting of drought-resistant indigenous trees and agro-forestry practices to improve tree cover.  Fire Prevention and Control: Develop community-based fire management teams and early detection systems to prevent forest fires.  Sustainable Charcoal Production; forest Protection Policies. Strengthen enforcement of laws against illegal logging and encroachment in forest reserves.	
	Reduced Regeneration of Indigenous Trees	Increased wildfires	Deforestation and illegal charcoal burning.		
Trade, industry and finance	<ul style="list-style-type: none"> <li>●commodity price increase</li> <li>●Slowdown in business activity</li> <li>●Unavailability of commodities</li> <li>●Exacerbation of food and nutrition</li> </ul>	<ul style="list-style-type: none"> <li>●Famine/drought/starvation</li> <li>●High food prices</li> </ul>	<ul style="list-style-type: none"> <li>●Prudent utilization of current food reserves</li> <li>●Importation of essential food commodities</li> <li>●Preservation of food commodities</li> <li>●Preservation of wildlife feeds and excavation of more water sources in</li> </ul>	<ul style="list-style-type: none"> <li>●Subsidized trader</li> <li>●Reduced credit interests</li> <li>●Destocking of livestock to prevent losses as pasture and water resources decline</li> <li>●Provision of relief food to the wards already vulnerable due</li> </ul>	Dept of Trade Business Community National & County Governments

	<p>security and economic hardships in vulnerable areas of the county already affected by cumulative impacts of the previous poor rainfall season</p> <p>●Increased human-wildlife conflicts in areas that will have limited water and pasture impacting peoples' socio-economic status.</p>		<p>their habitat.</p>	<p>to failed OND 2024 rains</p> <ul style="list-style-type: none"> <li>● Expansion of irrigation schemes to support agricultural production in zones</li> <li>●Enhancement of conflict resolution mechanisms</li> <li>● Increased monitoring and surveillance of weather conditions by key stakeholders to enable early mitigation efforts.</li> </ul>	
Energy	Decreased hydro-power production	<ul style="list-style-type: none"> <li>●Temporary blackouts</li> <li>●Reduced businesses turnover</li> <li>●Power rationing</li> </ul>	<ul style="list-style-type: none"> <li>●Maintenance of KPLC infrastructures.</li> <li>●Investment on alternative energy sources</li> </ul>	<ul style="list-style-type: none"> <li>●Allocate emergency funds</li> <li>●Subsidy on fuel especially for domestic use</li> <li>●Prudent use of power</li> </ul>	<p>Kenya Power (KPLC)</p> <p>Private power generators</p>
	Power outages	<ul style="list-style-type: none"> <li>●Security</li> <li>●Slowdown in business activity</li> <li>●Spoilage of electric gadgets</li> </ul>	<ul style="list-style-type: none"> <li>●Energy saving</li> <li>●Intensified use of alternative energy sources like solar energy</li> </ul>	<p>Alternative supply e.g. solar, generators</p>	<p>Kenya Power (KPLC)</p> <p>Private power generators</p>
	Increased cost of Energy	<ul style="list-style-type: none"> <li>●Reduced electric energy generation</li> <li>●High cost of</li> </ul>	<ul style="list-style-type: none"> <li>●Intensified use of solar energy</li> <li>●Intensified use of alternative energy</li> </ul>	<ul style="list-style-type: none"> <li>●Subsidies on solar power equipment, generators etc.</li> </ul>	<p>Kenya Power (KPLC)</p> <p>Private power generators</p>



		doing business	sources eg. green energy		
Health	<p>Increased disease burden- Increased malnutrition caseloads- MAM and SAM/GAM</p> <p>-Increased Morbidity- Water&amp; Vector borne diseases, diseases of the respiratory system</p> <p>-Increased in negative birth outcomes-Low birth weight, prematurity and maternal mortality</p> <p>-Increased strain on health infrastructure and other components of the health system-human resource and commodities</p> <p>-Increased mental health issues-increased psychosocial stress due to loss of livelihoods,</p>	<p>Food insecurity and malnutrition</p> <p>-Environmental degradation &amp; Climate change</p> <p>-Erratic rainfall/drought</p> <p>-Social strain as a result of conflict over diminishing resources like water</p> <p>-Stress and anxiety negatively impacting mental health</p> <p>-Emerging and reemerging diseases</p>	<p>Good political will</p> <p>-Strong multisectoral collaboration-critical in enhancing food and nutrition security</p> <p>-Presence of the County Contingency plan</p> <p>-Established Partnerships-Presence of stakeholders-Partners</p> <p>-Receptive community members</p> <p>-Well-coordinated level 1 of health care across the county-240 functional community health units</p> <p>-All Community health promoters have weighing scales and MUAC tapes for growth monitoring. Thus, early screening and referral for children with acute malnutrition</p> <p>-Availability of some nutrition commodities-</p>	<p>Preposition health &amp; nutrition commodities</p> <p>-Conduct Integrated mass screening/ Outreaches at identified hotspots</p> <p>Intensify screening for acute malnutrition among children under-fives years, pregnant &amp; lactating women in all health facilities</p> <p>-Intensify disease surveillance for notifiable diseases</p> <p>-Procure and distribute WASH commodities</p> <p>-Promotion of Hygiene interventions</p> <p>-Enhance water sampling and domestic water treatment</p> <p>-Intensify health &amp; nutrition education</p> <p>-Strengthen referrals&amp; Linkages at all levels of healthcare</p> <p>-Enhance partnerships</p> <p>-Strengthen psychosocial support programmes and provide mental health services prioritizing high risk zones.</p>	<p>Ministry of Health Department of Health Private Hospitals FBOs Partners Community members</p>

	<p>food insecurity and displacement</p> <p>-Increase in health inequalities, especially for the most vulnerable in population; OVC, PWD, etc.</p>		<p>especially those for managing severe acute malnutrition Partnerships</p>		
Education	<ul style="list-style-type: none"> <li>●Inadequate food.</li> <li>●Inadequate water.</li> <li>●Destruction of school infrastructure like sunken toilets in places where above normal rains will be experienced</li> <li>●Increased cases of drowning in areas receiving above normal rains.</li> </ul>	<ul style="list-style-type: none"> <li>●High rates of school dropout cases</li> <li>●Absenteeism</li> <li>●High cases of teenage pregnancies,</li> <li>●Child labour</li> <li>●Poor grades/performance</li> <li>●Water related diseases affecting learners.</li> </ul>	<ul style="list-style-type: none"> <li>●Practicing water harvesting</li> <li>●Practicing kitchen gardening</li> <li>●Enhancing feeding programs</li> <li>●Provision of iron and folic Acid supplements to teenage girls.</li> <li>●De-worming</li> </ul>	<ul style="list-style-type: none"> <li>●Early warning and preparedness</li> <li>●Enhancing/repair of school infrastructure</li> <li>●Tree planting including fruit trees.</li> <li>●Procurement of water storage facilities.</li> <li>●Sinking of boreholes</li> <li>●Water treatment practices</li> <li>●Sensitization on hand washing practices.</li> <li>●Distribution of sanitary kits.</li> <li>●Rescue camps</li> <li>●Upscaling of school feeding programs.</li> </ul>	<p>KMD NDMA</p> <p>MOE MOH,</p> <p>County Government</p> <p>NGOs</p> <p>Religious organizations</p> <p>Parents</p> <p>Learners</p> <p>Nat. Government</p>

## 4 How to get Weather Updates

You can get weekly weather updates from the Counties folder in the KMD Website

<https://meteo.go.ke/node/4191> and via SMS messages every Monday evening or early Tuesday morning.

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**For More information Contact, the Nearest Agriculture Office, Ward Admin's Office, Sub County Offices &  
County Offices – Makueni County.**

**Makueni County Meteorological Office: Contact: 0795929926**

**Email: [kmdmakuenicounty@mail.com](mailto:kmdmakuenicounty@mail.com)**