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EMBU COUNTY

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## **ADVISORIES FOR THE OCTOBER-DECEMBER 2023 (OND 2023) RAINY SEASON**

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# 1 Climate information

## 1.0 Highlights of the MAM 2023 Performance

March-April-May (MAM) 2023 onset occurred between third and fourth week of March 2023. Most of the places received above normal rains and the cessation was generally observed between the fourth week of April to first week of May 2023. Most of the areas received the

### 1.1 Review of Previous Season (MAM 2023)

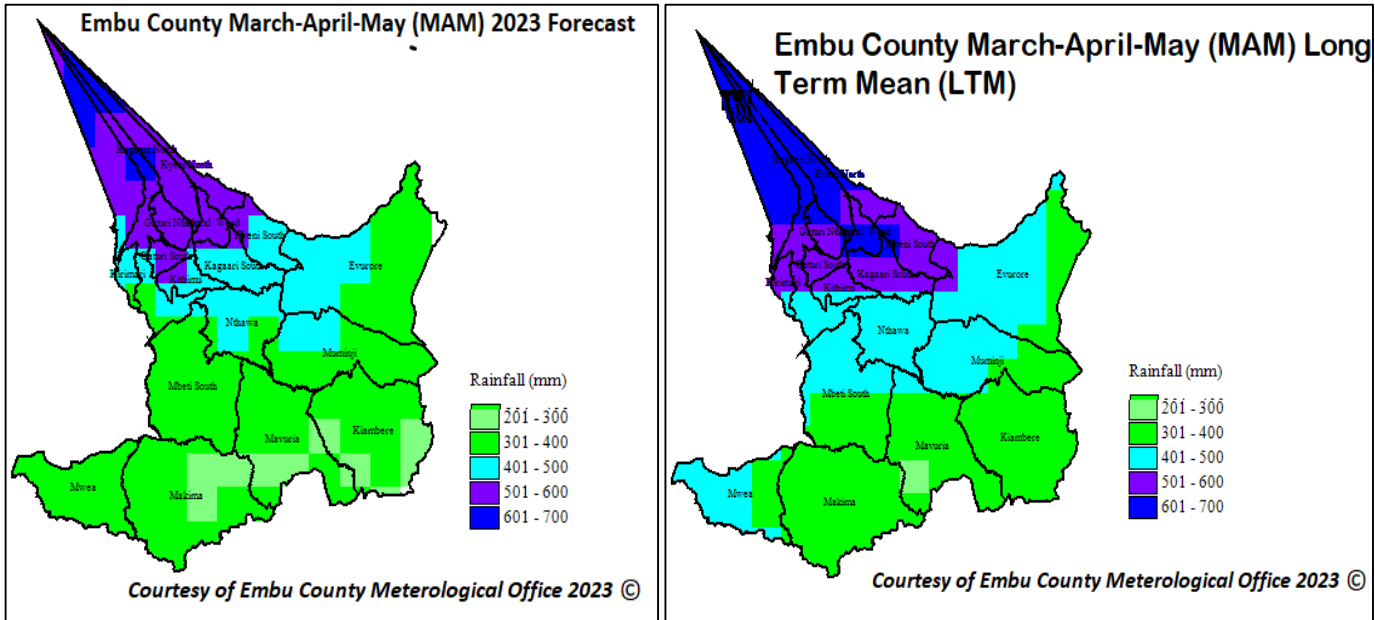


Fig.1: October-November-December (OND) 2023 Forecast

Fig.2: OND the Long Term Means (LTM) (right)

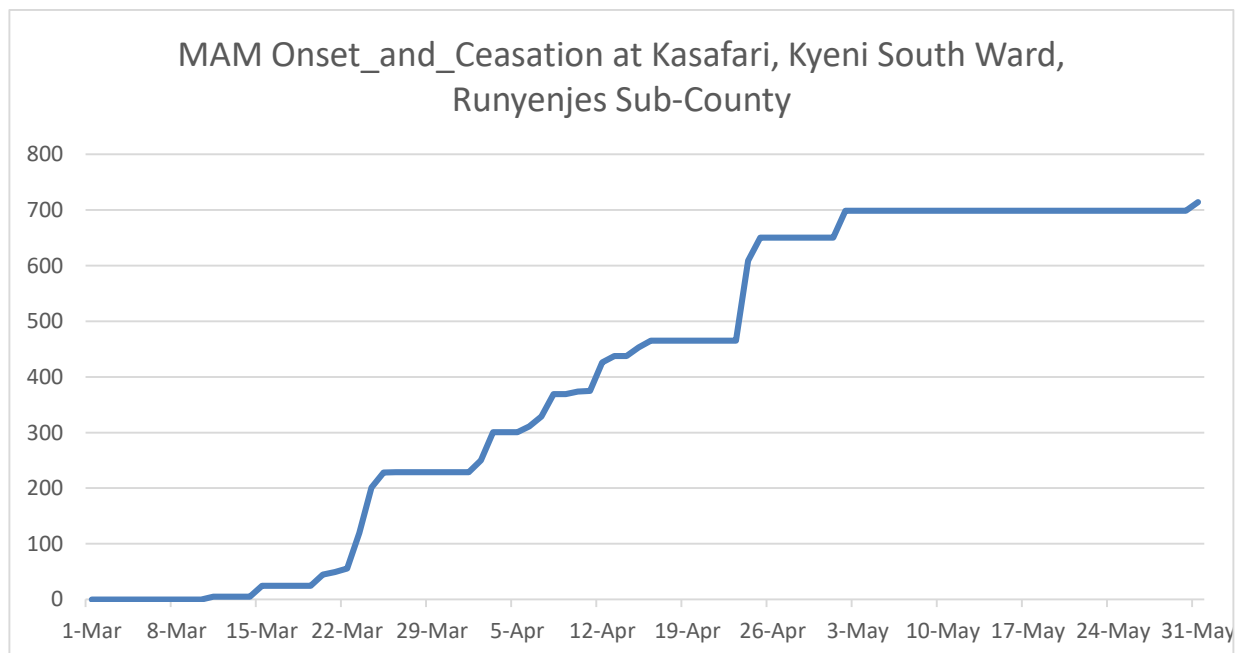


Fig.3: Runyenjes Sub-county cumulative rainfall curves indicating onset and cessation dates (OND) 2023

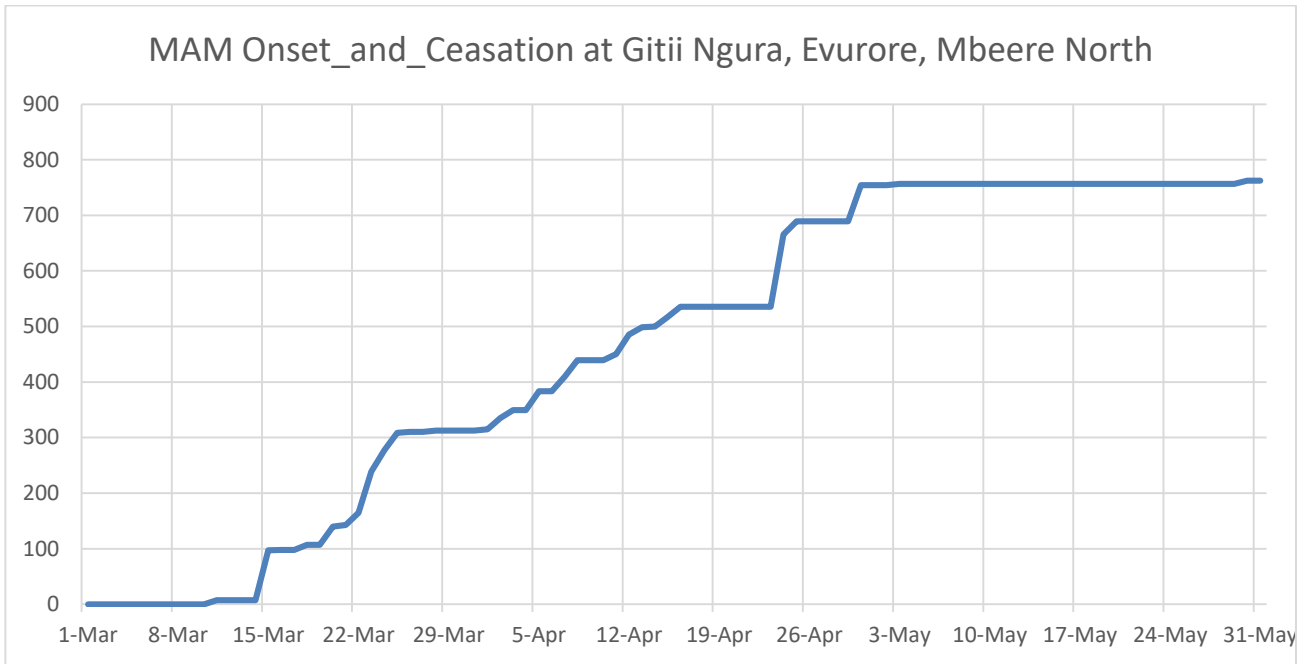


Fig.4: Mbeere North Sub-county cumulative rainfall curves indicating onset and cessation dates (OND) 2023

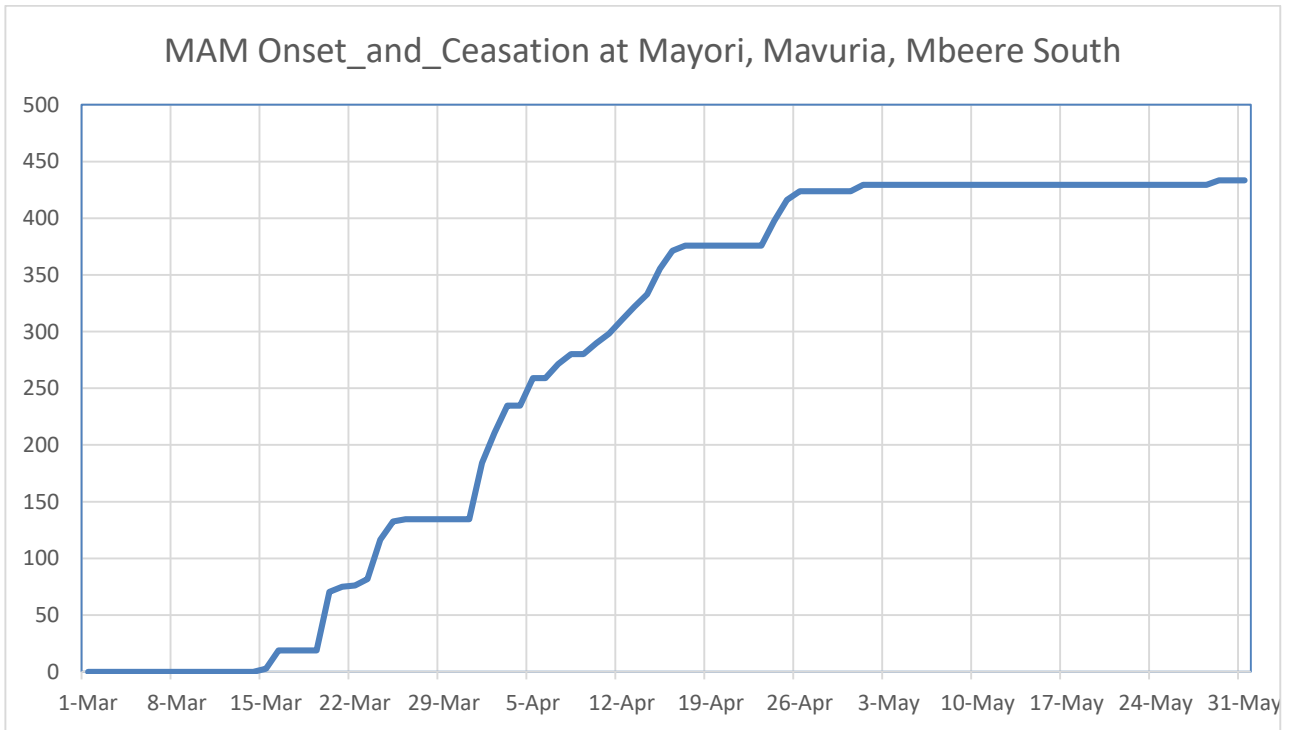


Fig.5: Mbeere South Sub-county cumulative rainfall curves indicating onset and cessation dates (OND) 2023

Column1	Mayori	Gitii-Ngura	Kasafari	Managia	Kianamu	Kirie	Ndune
<b>Week 1</b>	0	0	0	0	0	0	0
<b>Week 2</b>	0	7.1	5	0	0	0	0
<b>Week 3</b>	75.1	135.3	44.5	48.9	24.1	74	15.9
<b>Week 4</b>	59.3	170.1	179.2	140.8	55.9	180.7	62.5
<b>Week 5</b>	100.4	36.8	72.1	54	64.3	77.1	53.4
<b>Week 6</b>	63.5	100.8	74.1	78.7	110.8	79.6	44.6
<b>Week 7</b>	77.6	85.3	90.2	101.1	60.3	87.9	78.6
<b>Week 8</b>	40.3	154	185.4	129.5	83.8	61.8	59.4
<b>Week 9</b>	13.1	64.7	48.1	39.5	81.6	25.4	11.9
<b>Week 10</b>	0	2.4	0	0	0	2.7	0
<b>Week 11</b>	0	0	0	0	0	0	0
<b>Week 12</b>	0	0	0	0	0	0	0
<b>Week 13</b>	4	6	15.9	0	5.6	3.2	10.1
<b>Total</b>	433.3	762.5	714.5	592.5	486.4	592.4	336.4

Fig.6: The weekly totals table by Ward/AEZ as a further indicator of the distribution

## 1.2 OND 2023 Seasonal Weather Forecast

### 1.2.1 Highlights

Embu County is expected to experience **above-normal** rainfall in the Highlands, upper Middle altitude zones as well as the lowland areas (Mbeere North and Mbeere South). The rainfall is expected to be well distributed both in time and space in all parts of the county during October to December (OND) 2023 (“Short-Rains”).

The onset is expected to be in the 2<sup>nd</sup> week to 3<sup>rd</sup> week of October 2023 in the in all parts of the county

Expected cessation dates are 1<sup>st</sup> week of January 2024 in lower parts of the county and 2<sup>nd</sup> week of January 2024 in the upper and middle parts of the county.

Temperatures are expected to be above normal during this season

### 1.2.2 Spatial distribution of total OND Seasonal Rainfall

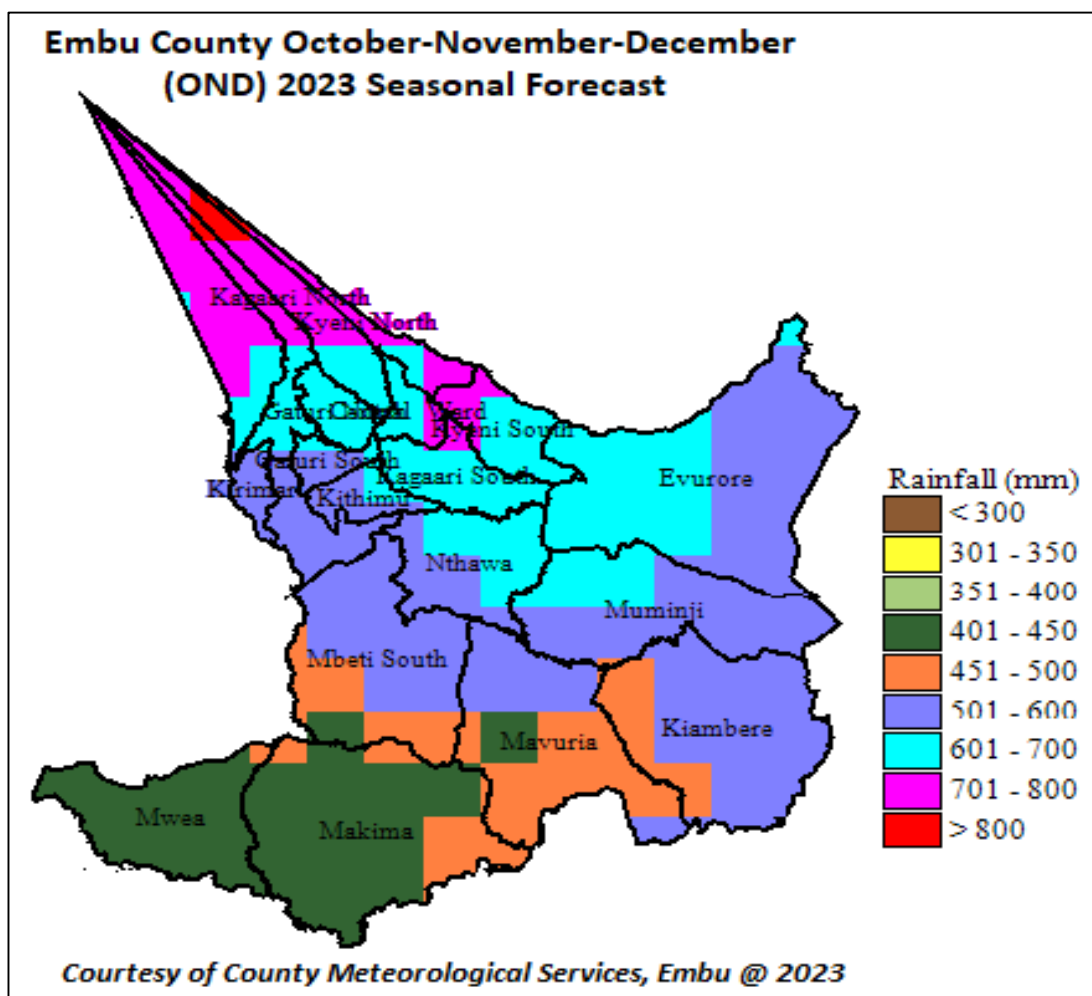


Fig.7: Spatial distribution of the total OND 2023 seasonal rainfall

### 1.2.3 OND 2023 Seasonal Forecast by Ward

SNO	Sub county	Ward/ climatic zone	Seasonal Amount in mm		Probable onset dates	Probable Cessation dates
			Normal (Long term mean 1991-2020) (mm)	Forecast for OND 2023 (mm)		
1	Manyatta	Kirimari	401-450	501-600	Between 8th – 21 <sup>st</sup> Oct 2023	Between 1 – 14 <sup>th</sup> January 2024
2		Nginda	451-700	601-800		
3		Gaturi South	451-600	501-700		
4		Mbeti North	401-500	501-600		
5		Ruguru Ngandori	451-700	601->800		
6		Kithimu	401-500	501-700		
7	Runyenjes	Kagaari South	451-600	601-700		
8		Kagaari North	501-700	601->800		
9		Gaturi North	501-600	601-700		
10		Runyenjes Central	501-600	601-700		
11		Kyeni South	501-600	601-800		
12	Kyeni North	501-700	601->800			
13	Mbeere North	Evurore	401-500	501-700		
14		Muminji	401-500	501-700		
15		Nthawa	401-500	501-700		
16	Mbeere South	Mbeti South	351-450	451-600		
17		Kiambere	351-450	451-600		
18		Mavuria	351-450	401-600		
19		Makima	301-400	401-500		
20		Mwea	301-350	401-450		

Fig.8: OND 2023 seasonal forecast by Ward

## 2 Agro-Weather Advisories

### 2.0 General Responsibilities

- Farmers to implement the advisories
- Agricultural 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, monthly and need arises)
- Agriculture, Livestock and Fisheries development
- Insurance companies

### 2.1 General Farm Activities

- Early land preparation: before 8<sup>th</sup> October
- Repair of soil and water conservation structures: Terraces, Zai Pits, Basins
- Repair of water storage structures: Desilting 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

### 2.2 When to Plant

- This onset week should be around the predicted seasonal onset dates.

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

<b>Crops to plant</b>	<b>Kagaari North, Gaturi North, Runyenjes Central, Kyeni North, Nginda, Ruguru Ngandori, Gaturi South</b>  Probable OND 2023 amount: <b>300-350 mm</b>
1. Maize	Hybrid- 600 series, P30 G19, Pan15, Pan69
2. Yams	Maintenance of existing local variety
3. Bananas	Maintenance of existing local variety
4. Tree Tomato	Maintenance of existing local variety
5. Passion Fruits	Maintenance of existing local variety
6. Irish Potatoes	Maintenance of existing local variety
7. Macadamia	Maintenance of existing local variety
8. Avocado	Maintenance of existing local variety
9. Coffee	Maintenance of existing local variety
10. Tea	Maintenance of existing local variety
11. Fodder crops	Super Napier, Bracharia, Bana grass, Rhodes grass, Calliandra, Leucanea, Desmodium, Mulberry. Farmers are advised to bulk and conserve excess fodder.
12. Afforestation trees including medicinal	Warmbugia (Muthiga), Prunus (Mwiria).

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

In the **Middle zone** farmers are advised to plant the following varieties: -

Crops to plant	Wards: (Gaturi South, Kyeni South, Mbeti North, Kithimu, Kirimari, ) Probable OND 2023 amount: <b>250-300 mm</b>
1. Maize	H513, H514, H515, H516, WS403, PHB 3253 Duma 41, Duma 43, DK 8031, Simba 61, P30 G19
2. Beans	Nyota, EMBean14(mwende), mwitemania, gachangu, <i>KATB1 KATB9, KATX69, KATX56</i>
3. Cow Peas	K80, M66, KVU27-1, Locals (Kangau),
4. Bananas	TC banana (e.g. Giant, Cavendish, William Hybrid, Grand naine, Kiganda)
5. Mangoes	Kent, apple, Vandyke, Tommy
6. Passion	Yellow passion (KP 4,11& 12)
7. Vegetables	cow peas, amaranthus, black night shade
8. Cassava	Ndolo, Mucericeri, KME 1, 2 &3, Tajirika
9. Sweet potato	KSP 004, KEMB 10, Bungoma, Irene
10. Fodder	Napier - Kakamega 1&2, Bana grass, fodder maize (Pan 14) Rhodes, Brachiaria, Desmodium, Calliandra, Leucaena, Mulberry. Farmers are advised to bulk and conserve excess fodder
11. Roots / tubers	Musinya, X-Mukurweini, Marokoo, Beet roots, Cassavas
12. High value trees	Mangoes, oranges, Macadamia, Avocado, Grevillea, citrus and passion
13. Afforestation trees including medicinal trees	Warmbugia (Muthiga), Prunus (Mwiria

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

Crops to plant	Wards: Evurore, Muminji, Nthawa, Mbeti South, Kiambere, Mwea, Makima, and Mavuria Probable OND 2023 amount: <b>150-200 mm</b>
1. Maize	DH04, DH02, Duma 43, KDV4 and KDV6, Pan 3M05, P2848
2. Beans	Mwitemania, Gachangu, KatB1, Kat X56, Kat X69&B9, MweziMoja
3. Sorghum	Gadam), Millet (PM 1, 2,&3
4. Cow Peas	K80, M66 & KVU 27-1
5. Green grams	N26, KS 20, Ndengu tosha, Ndengu biashara
6. Roots/Tubers	Cassava-Ndolo, Muchericheri, tajirika, KME1 &2
7. Sweet potato	KSP 004, KEMB10, Bungoma
8. High value trees	Mangoes, oranges, Avocado, Grevillea, citrus and passion.
9. Afforestation trees including medicinal	Warmbugia (Muthiga), Aloe vera.
10. Vegetables	Cow peas, amaranthus, black night shade-managu
11. Fodder crop/trees	Boma Rhodes (low lands variety), Brachiaria (Basilisk & MG4), Sudan grass, fodder sorghum, leucaena and Mulberry. Farmers are advised to bulk and conserve excess fodder.



## 2.6 General Analysis of Hazards/Risks and Opportunities (agriculture)

Hazards /risks	Opportunities	Proposed actions
<ul style="list-style-type: none"> <li>• Moderate floods (flash floods)</li> <li>• Soil erosion</li> <li>• Isolated incidences of water logging</li> <li>• Outbreak of crop pests and diseases</li> <li>• Leaching of nutrients</li> <li>• False on-set of rains</li> <li>• Poor germination and loss seeds</li> <li>• Destruction of farm structures</li> <li>• Low land productivity</li> <li>• Low crop yields</li> <li>• Loss of inputs and poor crop establishment</li> <li>• Food insecurity and poor farm incomes</li> </ul>	<ul style="list-style-type: none"> <li>• Maximizing yields and income through planting recommended varieties</li> <li>• Increased area under crop and farm forest cover</li> <li>• Water harvesting for crop production and household use</li> <li>• Availing of certified farm inputs by agro-dealers</li> <li>• Kitchen gardening</li> <li>• Insuring of crops against</li> </ul>	<ul style="list-style-type: none"> <li>• Establish new and Repair existing soil and water conservation structures and farm facility structures</li> <li>• Staggered planting</li> <li>• Timely procurement of inputs</li> <li>• Embrace Integrated Pest Management and Integrated Crop Management</li> <li>• Procurement of crop insurance</li> </ul>

## 3 Specific advisories for Livestock farmers

Recommended Actions	Hazard/Risks	Opportunities	RESPONSIBLE
<ul style="list-style-type: none"> <li>✓ <b>Pastures/fodder to be established</b></li> <li>• Panicum maximum (Mbwea)</li> <li>• Chloris Roxburghiana (Kilili)</li> <li>• Bracharia species</li> <li>• Pennisetum species</li> <li>• Cencrus ciliaris</li> <li>• Sorghum Fodder</li> <li>• Sudan grass</li> <li>• Eragrostis Superba (Mbeetwa)</li> </ul>	<ul style="list-style-type: none"> <li>• Livestock diseases, Parasites infestation, Poor pasture and fodder establishment</li> <li>• Inadequate pasture and fodder</li> <li>• Reduced milk production</li> <li>• Low birth rates</li> <li>• Poor body condition</li> <li>• Low prices of animals</li> <li>• Reduced water availability</li> <li>• Reduced household income</li> </ul>	<ul style="list-style-type: none"> <li>• Feed Conservation</li> <li>• Breed improvement-for adaptable breeds</li> <li>• Value addition</li> <li>• Water harvesting and storage</li> <li>• Increase of small stock number</li> <li>• Breed improvement-for adaptable breeds</li> <li>• Value addition</li> <li>• Water harvesting and storage</li> <li>• Increase of small stock number</li> <li>• Feed Conservation</li> </ul>	<p>Farmers</p> <p>WLPO</p> <p>Community Extension Volunteers,</p> <p>Inputs suppliers</p> <p>Service providers</p>
<ul style="list-style-type: none"> <li>✓ <b>General actions</b></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> <li>• Bush management for pasture improvement</li> <li>• Deworming</li> <li>• Tick control</li> <li>• Vaccinate the animals against weather related diseases</li> <li>• Proper housing for livestock protection.</li> <li>• Timely harvesting and preservation of pastures and fodder</li> <li>• Rehabilitation of fish ponds</li> <li>• Restocking of fish ponds.</li> </ul>			

## 4 Advisories for Other Livelihood Sectors

SECTOR	Impact	Hazards/ Risk	Opportunity	Intervention/Actions	Responsible
Water resources	Little water that should be harvested	Inadequate water infrastructures -Flash flood	Water harvesting & conservation	Water trucking, adopt Water harvesting structures e.g. dams ,ponds ,water tanks	Dept of water and development partners
Disaster management	Few disasters likely to happen	Likelihood of La nina phenomenon to persist	Leverage on salvaged produce	Emergency /contingency plans	National Drought Management Authority, NGOs,Governments,Faith Based Organization
Wildlife /forestry	Increased Human /wildlife conflict, Incidences of wild fire breakout.	Loss of livelihood  Loss of wildlife	Conservation and strict protection of the current biodiversity	Human /wildlife conflict minimization through budgetary allocation for compensation ,electric fencing ,surveillance and enforcement,Afforestation programs	KWS  Nationational & County Government  Farmers
Trade, industry and finance	commodity price increase  Reduced per capita incomes	Famine/ drought/starvation	Prudent utilization of current food reserves, Importation of essential food commodities	Subsidized trader  Reduced credit interests	Dept of Trade, Business Community, Nationational & County Government
Energy	Energy infrastructure network collapse	Electrocution, Temporary blackouts	Maintenance of KPLC infrastructures, Investment on alternative energy sources	Allocate emergency funds, subsidy on fuel especially for domestic use	Kenya Power
	Power outages	Short-circuiting	Energy saving	Alternative supply e.g. solar, generators	Kenya Power
	Increased cost of Energy	Reduced electric energy generation	Intensified use of solar energy	Power rationing, Subsidies on solar power equipment	
Transport /communication	Poor transport & communication networks	Flash floods	Road for water harvesting	Diversion channels  Emergency funds /personnel, declogging of culverts	Dept of Transport, NTSA, National Government, County Government
Health	Increased Food insecurity	Increased Malnutrition, Increased food deficient related ailments	Leverage on Nutrition, Increase food supplements for young children and the elderly	Emergency /mobile clinic, Increase Health personnel, Enhanced public health activities, Prepositioning of drugs in health facilities	Ministry Of Health, Private Hospitals, Stakeholders
Education	Disruptions of education due to hunger at home, Increased school drop outs	Poor school infrastructure due to parent's low incomes	Initiation of School feeding Program	Early warning and preparedness	Dept of Education, NGOs, Faith Based Organizations, Parents

## 5 How to get Weather Updates

You can get weekly weather updates from the Counties folder in the KMD Website <https://meteo.go.ke/node/4292>, Monday evening or early Tuesday morning.

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**For More information, Contact, the Nearest Agric Office: Ward, Sub County & County-Embu.**

**Embu Meteorological Office**