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# KILIFI COUNTY

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OCTOBER-NOVEMBER-DECEMBER (OND) 2025

## **Introduction.**

## **Background.**

The October–November–December (OND) season is one of the most critical rainfall periods, particularly for communities whose livelihoods depend on rain-fed agriculture and livestock production. Accurate and timely climate information during this season is vital for safeguarding food security, enhancing disaster preparedness, and supporting sustainable livelihoods.

To bridge the gap between scientific forecasts and local-level decision-making, the **Participatory Scenario Planning (PSP)** approach has been widely adopted. PSP provides a platform where climate scientists, government departments, humanitarian actors, and local community representatives come together to jointly interpret seasonal forecasts, integrate indigenous and traditional knowledge (ITK), and develop actionable advisories tailored to different user needs.

## **The 2025 OND PSP Forum.**

The 2025 OND seasonal PSP forum was held at the **Malindi Pearl Hotel** from the **24th to 25th of September 2025**, sponsored by the **Kenya Red Cross Society**. The forum brought together a wide range of stakeholders, reflecting a multi-sectoral and inclusive approach. Participants included:

- Kenya Meteorological Department (KMD)
- Ministry of Agriculture
- Department of Livestock
- Disaster Management Unit
- Kenya Red Cross Society (KRCS)
- BBC Media Action
- Farmers and weather observation volunteers
- Indigenous and Traditional Knowledge (ITK) experts
- Civil society organizations and other development partners

This diversity ensured that multiple perspectives—scientific, technical, local, and indigenous—were represented in the discussions.

## **Objectives of the Forum.**

The main objectives of the PSP forum were to:

1. Review and interpret the **2025 OND seasonal climate outlook** at county and community levels.
2. Facilitate **knowledge exchange** between meteorological experts and local knowledge holders, ensuring complementarity between scientific forecasts and ITK.
3. Co-produce **agro-weather advisories** that are localized, actionable, and accessible to farmers, pastoralists, and other vulnerable groups.
4. Enhance **preparedness and risk reduction** by identifying potential climate-related hazards and developing sector-specific response strategies.
5. Strengthen **collaboration among stakeholders** in climate information dissemination and use.

## Expected Outcomes.

By the end of the forum, participants were expected to:

- Produce **tailored agro-weather advisories** for different livelihood zones.
- Identify **communication channels** to ensure timely and effective dissemination of advisories to end users.
- Enhance **community capacity** to interpret and apply climate information in agricultural planning and disaster risk reduction.
- Foster stronger **partnerships and coordination mechanisms** among government agencies, humanitarian organizations, and local communities.

## Significance.

The 2025 OND PSP forum reaffirmed the importance of participatory approaches in building climate resilience. Through the co-production of knowledge, the forum not only translated complex climate forecasts into user-friendly advisories but also empowered communities to make informed decisions that enhance food security, protect livelihoods, and reduce vulnerability to climate shocks.

## 1. Overview.

The March–May (MAM) long rains of 2025 in Kilifi County were characterized by **underperformance in March and April**, followed by a strong recovery in **May**, and an **extended cessation** under the influence of the *Kusi* season. Spatial and temporal variability was high, with some stations recording **double the rainfall of others**, while storm events (>30 mm/24h) and long dry spells were significant drivers of agricultural outcomes.

## 2.0 Rainfall Performance by Station.

Station	Mar (mm)	Apr (mm)	May (mm)	MAM Total (mm)*	% Share from May	June (mm)	Rainy Days (MAM/Jun)	Storms (MAM/Jun)	Key Notes
<b>Bomani</b>	54	36	282	372	75.8%	220	32 / 22	4 / 2	Season peaked in May
<b>Gongoni</b>	104	19	272	395	68.9%	292	— / —	6 / 1	Highest storm activity
<b>Kawala</b>	37	84	197	318	61.9%	82	— / —	2 / 0	Moderate totals
<b>Mwanamwinga</b>	30	81	151	262	57.6%	93	21 / 14	0 / 0	Fewest storms
<b>Kakoneni</b>	30	43	130	203	64.0%	109	21 / 16	0 / 0	Lowest seasonal total
<b>Dzitoni</b>	111	115	248	474	52.3%	165	32 / 17	4 / 1	Wettest station south
<b>Chonyi</b>	27	75	207	309	67.0%	130	38 / 17	4 / 1	Very high rainy days
<b>Kanyangwa</b>	102	60	396	558	71.0%	248	45 / 23	4 / 1	Wettest & storm- prone
<b>Mtepeni</b>	20	200	300	520	57.7%	196	24 / 12	6 / 1	High storms & totals
<b>Marereni</b>	77	83	345	505	68.3%	137	29 / 18	4 / 1	Strong May rains
<b>Matsangoni</b>	70	166	207	443	46.7%	193	26 / 14	5 / 1	Storm- prone

### 2.1.1 Seasonal Onset & Cessation.

- Rains began in the **4th week of March** (early to normal onset).
- **Cessation delayed** into June across all stations, influenced by the *Kusi*.

### 2.1.2 Monthly Performance.

- **March–April:** Below-normal and poorly distributed, with dry spells of up to **11 days** (especially in Magarini).
- **May:** Dominant rainfall month, contributing **50–75%** of the seasonal total across most stations.
- **June:** Continued wet conditions (average  $\approx 170$  mm), prolonging the season by 2–3 weeks.

### 2.1.3 Rainfall Distribution.

- Highly variable: totals ranged from **203 mm (Kakoneni)** to **558 mm (Kanyangwa)**.
- Rainy days ranged **21–45 days (MAM)** and **12–23 days (June)**.
- Distribution was **poor in the northern half (Magarini)** and **fair in the south**.

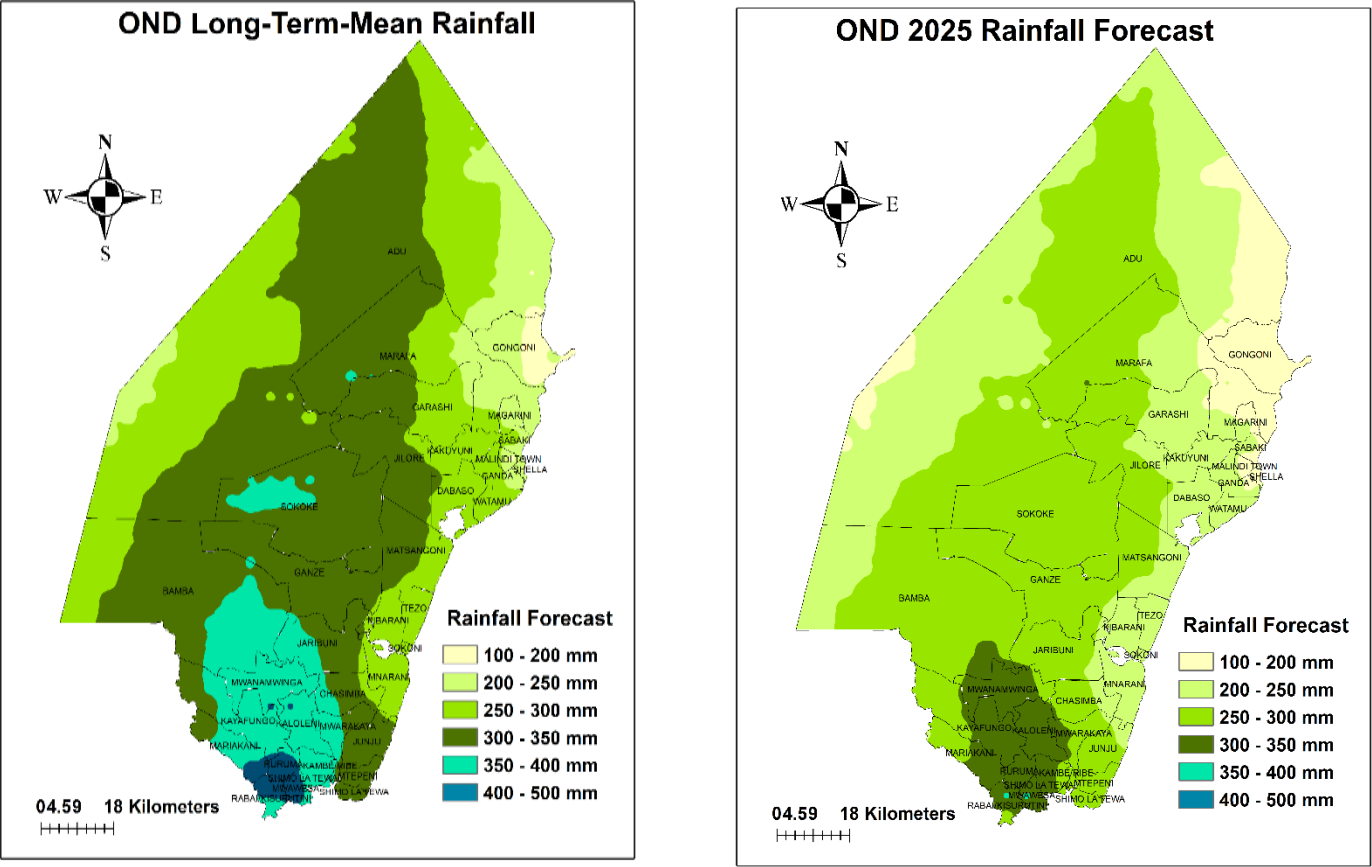
### 2.1.4 Storm Events.

- Storms ( $>30$  mm/24h): **0–6 per station** during MAM; **0–2 per station** in June.
- **Magarini and Malindi sub-counties** recorded the strongest and most frequent storms.

### 3.0 KILIFI COUNTY OCTOBER-NOVEMBER-DECEMBER (OND-2025) SEASONAL FORECAST.

#### 3.1 Highlights.

The OND-2025 rainy season is likely to be below the long-term-mean of the season (Below-Normal). Onset is expected in the 3rd to 4th week of November 2025 with occasional rainfall in October, and cessation in the 3rd to 4th week of December 2025. Kilifi is expected to receive rainfall with intermittent breaks during the season, long dry spells with poor distribution in both time and space and occasional storms are also likely. Temperatures are expected to be higher than the long-term average for the season.



**Figure 1.** Compares the Long-Term Average OND rainfall for Kilifi to the OND-2025 total rainfall forecast.

### 3.2 OND-2025 Seasonal Forecast by Ward.

Sub-County	Ward	Normal (LTM 1991-2020)	FORECAST FOR OND 2025	PROBABLE ONSET DATES	PROBABLE CESSATION DATES
Magarini	Marafa	200 – 350 mm	100 – 250 (Eastern); 250 – 300 (Western)	3rd to 4th week of November 2025 with occasional rainfall in October	3rd to 4th week of December
	Magarini	200 - 250 mm	100 - 250 mm		
	Gongoni	200 - 250 mm	100 -200 mm		
	Adu	240 - 320 mm	100 -250 mm		
	Garashi	200 - 350 mm	200 – 300 mm		
	Sabaki	220 – 270 mm	100 – 250 mm		
Malindi	Jilore	280 – 300 mm	200 – 300 mm		
	Kakuyuni	250 – 300 mm	200 – 250 mm		
	Ganda	240 – 300 mm	100 – 250 mm		
	Malindi Town	200 – 280 mm	100 – 250 mm		
Kilifi South	Junju	300 – 350 mm	200 – 300 mm		
	Mwarakaya	300 – 380 mm	250 – 300 mm		
	Chasimba	280 – 370 mm	200 – 300 mm		
	Mtepeni	300 – 350 mm	250 – 300 mm		
	Shimo La Tewa	300 – 350 mm	250 – 300 mm		
Kilifi North	Matsangoni	280 – 320 mm	200 – 300 mm		
	Watamu	250 – 290 mm	200 – 250 mm		
	Mnarani	250 – 290 mm	200 – 250 mm		
	Tezo	250 – 290 mm	200 – 250 mm		
	Sokoni	250 – 290 mm	200 – 250 mm		
	Dabaso	270 – 300 mm	200 – 250 mm		
	Kibarani	270 – 300 mm	200 – 250 mm		



Ganze	Sokoke	300 – 360 mm	250 – 300 mm		
	Ganze	300 – 380 mm	250 – 300 mm		
	Jaribuni	290 – 360 mm	200 – 300 mm		
	Bamba	320 – 370 mm	200 – 300 mm		
Kaloleni	Mariakani	320 – 400 mm	250 – 350 mm		
	Kayafungo	320 – 400 mm	250 – 350 mm		
	Kaloleni	350 – 400 mm	300 – 350 mm		
	Mwana Mwinga	350 – 400 mm	300 – 350 mm		
Rabai	Rabai	350 – 400mm	300 – 350 mm		
	Kambe/Ribe	350 – 400 mm	250 – 350 mm		
	Ruruma	350 – 400 mm	300 – 350 mm		
	Mwawesa	380 – 420 mm	300 – 350 mm		

### 3.2.1 ☁ Rainfall Forecast by Ward:

The forecast assesses the expected OND 2025 rainfall relative to the 1991–2020 Long-Term Mean (LTM). Based on projected deviations from the mean, wards are classified into three rainfall scenarios: **Worst, Moderate, and Best.**

- **Sabaki, Adu, Marafa East, Magarini, Gongoni, Ganda, and Malindi Town** are projected to receive the lowest amounts of rainfall, ranging from **100–250** mm. This deficit heightens the risk of drought, crop failure, water scarcity, and livelihood stress. These wards should be prioritized for early drought preparedness and food security interventions and are therefore classified under the **Worst-Case Scenario** (drought hot spots).

- **Marafa West, Ganze, Kakuyuni, Garashi, Jilore, Junju, Mwarakaya, Chasimba, Mtepeni, Shimo La Tewa, Matsangoni, Watamu, Mnarani, Tezo, Dabaso, Kibarani, Sokoke, Jaribuni, and Bamba** are projected to receive **200–300** mm of rainfall. While agricultural activities can proceed with caution, the season may remain unreliable for water-dependent crops and rain-fed farming unless supported by effective soil and water conservation practices. These wards are therefore classified under the **Moderate Scenario**.

- **Mariakani, Kayafungo, Kaloleni, Mwana Mwinga, Kambe/Ribe, Ruruma, Mwawesa, and Rabai** are projected to receive **250–350** mm of rainfall during the OND season. This provides an opportunity for increased agricultural productivity, pasture regeneration, and improved water availability. However, stakeholders should remain alert to the risk of localized flooding in poorly drained areas. These wards are therefore classified under the Best-Case Scenario.

## **4.0. AGRO-WEATHER ADVISORIES.**

### **4.1 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
- Humanitarian institutions to assist drought, flood and ocean hazards (cyclones/tropical storms) threatened hot spots in the light of the OND and weekly weather forecasts and alerts.
- Kenya Met Department to provide weather updates (weekly, other)
- Insurance companies against drought, riverine floods and ocean hazard

### **4.2 General Farm Activities.**

- Early land preparation: before October for all areas
- Repair of water storage structures: Desilting of farm ponds, weirs, water tanks, water pans, Gutters
- Practice Conservation Agriculture (CA): Ripping, Terraces, Zai Pits, Planting stations.
- Plant ecologically suitable certified seeds as indicated above
- Scale up manure and fertilizer application (basal & top dressing)
- Timely weed control
- Heighten Timely and proper pests and disease control.
- Proper spacing of crops
- Pitting for fruits and forest Trees
- Rehabilitation of fruit tree crops (manuring, pruning, pest and disease control)
- Plant and replant fruit trees, such as coconut, cashew nut, pomegranates, mango trees, citrus trees
- Expand water pan and ponds excavation to take advantage of storms.

## **When to Plant.**

- Plant when the **weekly forecast** indicates at least **3 days** with rainfall totals of **greater than 20 mm**.

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

### **4.3 Highlights for agro-weather advisories.**

#### **Best Case Scenario.**

**Wards:** Mariakani, Kaya fungo, Kambe Ribe

**Probable OND 2025 amount:** 250-350 mm

**Wards:** Kaloleni, Mwana Mwinga, Ruruma, Mwawesa Rabai -Kisurutini.

**Probable OND 2025 amount:** 300-350 mm

**Probable onset dates:** 3rd to 4th week of November 2025 with occasional rainfall in October

**Probable cessation dates:** 3rd to 4th week of December.

#### ☒ **Advice to Farmers.**

- Farmers are advised to grow drought tolerant and early maturing crops e.g. cassava, cowpeas, green grams, sorghum, millet, indigenous vegetables including pumpkins, etc
- Farmers are advised to use climate smart technologies e.g. water harvesting structures
- Due to the expected rainfall amounts, it is advisable to plant the recommended maize varieties
- Farmers are advised to embrace Integrated Pest Management and Integrated Crop Management
- Farmers are advised to establish agroforestry
- It is recommended that farmers procure crop insurance

### **Moderate Case Scenario.**

**Wards:** Mnarani, Watamu, Dabaso, Kakuyuni, Kibarani Tezo,

**Probable OND 2025 amount:** 200-250mm

**Wards:** Garashi, Jilore, Junju. Chasimba, Matasangoni, Jaribuni, Bamba

**Probable OND 2025 amount:**200-300 mm

**Wards:** Marafa West, Ganze, Marakaya, Mtepeni, Shimo la Tewa, Sokoke

**Probable OND 2025 amount:**250-300 mm

**Probable onset dates:** 3rd to 4th week of November 2025 with occasional rainfall in October

**Probable cessation dates:** 3rd to 4th week of December.

### ☒ **Advice to Farmers.**

- Farmers are advised to grow drought tolerant and early maturing crops e.g. cassava, cowpeas, green grams, beans, sorghum, millet, indigenous vegetables including pumpkins, etc.
- Farmers are advised to use climate smart technologies e.g. water harvesting structures
- Due to the expected rainfall amounts, it is advisable to plant the recommended maize varieties
- Farmers are advised to embrace Integrated Pest Management and Integrated Crop Management
- Farmers are advised to establish agroforestry
- It is recommended that farmers procure crop insurance

### **Worst Scenario.**

**Wards:** Gongoni

**Probable OND 2025 amount:** 100-200 mm

**Wards:** Adu, Marafa East, Magarini, Malindi Town

**Probable OND 2025 amount:** 100-250 mm

**Wards:** Sabaki

**Probable OND 2025 amount:** 200-250 mm

**Probable onset dates:** 3rd to 4th week of November 2025 with occasional rainfall in October

**Probable cessation dates:** 3rd to 4th week of December.

### ☒ **Advice to Farmers.**

- Farmers are advised to grow drought tolerant and early maturing crops e.g. cassava, cowpeas, green grams, beans, sorghum, millet, indigenous vegetables including pumpkins, etc.
- Farmers are advised to use climate smart technologies e.g. water harvesting structures.
- Due to expected very low rainfall amounts, it is not advisable to plant maize.
- Farmers are advised to embrace Integrated Pest Management and Integrated Crop Management.
- Farmers are advised to establish agroforestry
- It is recommended that farmers procure crop insurance.

### Specific agro-weather Advisories for the Best-Case Scenario.

<b>Crops to plant</b>	<b>Wards: Mariakani, Kaya fungo, Kambe Ribe</b>  Probable OND 2025 amount: <b>250-350 mm</b>	<b>Wards: Kaloleni, Mwana Mwinga, Ruruma, Mwawesa Rabai - Kisurutini.</b>  Probable OND 2025 amount: <b>300-350 mm</b>
1. Maize	PH4, DH04, DK 777, DK 8033, DK 8031, DK 8343, DK 7500, Advanta, Tsavo, Sungura, Tosheka	PH4, DH04, DK 777, DK 8033, DK 8031, DK 8343, DK 7500, Advanta, Tsavo, Sungura, Tosheka,
2. Beans	GLP 92, Nyota, Angaza, Faida, Bean Kat 1	GLP 92, Nyota, Angaza, Faida, Bean Kat 1
3. Cow Peas	K80, M66, Locals, Ken Kunde, Kunde mboga, Kunde Faulu	K80, M66, Locals, Ken Kunde, Kunde mboga, Kunde Faulu
4. Pigeon peas	Mbaazi 1, M-pesa (ICIPE 01552) & Local variety	Mbaazi 1, M-pesa (ICIPE 01552) & Local variety
5. Vegetables	Okra, Brinjals, Kales, Spinach, Tomatoes, Amaranthus, African night shade, Spider weeds, pumpkins and other vegetables including indigenous vegetables	Okra, Brinjals, Kales, Spinach, Tomatoes, Amaranthus, African night shade, Spider weed and other vegetables including indigenous vegetables
6. Cassava	Tajirika, Shibe, Karemba, Nzalauka, Siri, Karibuni, Guzo, Mucericeri, Locals	Tajirika, Shibe, Karemba, Nzalauka, Siri, Karibuni, Guzo, Mucericeri, Locals
7. Sweet Potatoes	Mtwapa 8, Irene, Kenspot, Locals	Mtwapa 8, Irene, Kenspot, Locals
8. Millets	Finger millet, Pearl Millet	Finger millet, Pearl Millet
9. Green Grams	N26, KS20, Biashara, Karemba, Dengu Tosha	N26, KS20, Biashara, Karemba, Dengu Tosha
10. Sorghum	Gaddam, Serena, Seredo, Kari Mtama 1,	Gaddam, Serena, Seredo, Kari Mtama 1,
11. Simsim	Black, White	Black. White
12. Sunflower	Fedha, Hysun	Fedha, Hysun

## Specific Agro-weather Advisories for the Moderate Case Scenario.

<b><i>Crops to plant</i></b>	<b>Wards: Mnarani, Watamu, Dabaso, Kakuyuni, Kibarani Tezo,</b> Probable OND 2025 amount: <b>200-250mm</b>	<b>Wards: Garashi, Jilore, Junju. Chasimba, Matasangoni, Jaribuni, Bamba</b> Probable OND 2025 amount: <b>200-300 mm</b>	<b>Wards: Marafa West, Ganze, Marakaya, Mtepeni, Shimo la Tewa, Sokoke</b> Probable OND 2025 amount: <b>250-300 mm</b>
<b><i>1. Maize</i></b>	PH4, DH04, DK 777, DK 8033, DK 8031, DK 8343, DK 7500, Advanta, Tsavo, Sungura, Tosheka, DHO2, PH1, Duma	PH4, DH04, DK 777, DK 8033, DK 8031, DK 8343, DK 7500, Advanta, Tsavo, Sungura, Tosheka, DHO2, PH1, Duma	PH4, DH04, DK 777, DK 8033, DK 8031, DK 8343, DK 7500, Advanta, Tsavo, Sungura, Tosheka
<b><i>2. Beans</i></b>	GLP 92, Nyota, Angaza, Faida, Bean Kat 1	GLP 92, Nyota, Angaza, Faida, Bean Kat 1	GLP 92, Nyota, Angaza, Faida, Bean Kat 1
<b><i>3. Cow Peas</i></b>	K80, M66, Locals, Ken Kunde, Kunde mboga, Kunde Faulu	K80, M66, Locals, Ken Kunde, Kunde mboga, Kunde Faulu	K80, M66, Locals, Ken Kunde, Kunde mboga, Kunde Faulu
<b><i>4. Pigeon peas</i></b>	Mbaazi 1, M-pesa (ICRPE 01552) & Local variety	Mbaazi 1, M-pesa (ICRPE 01552) & Local variety	Mbaazi 1, M-pesa (ICRPE 01552) & Local variety
<b><i>5. vegetables</i></b>	Okra, Brinjals, Kales, Spinach, Tomatoes, Amaranthus, African night shade, Spider weeds, pumpkins and other vegetables including indigenous vegetables	Okra, Brinjals, Kales, Spinach, Tomatoes, Amaranthus, African night shade, Spider weed and other vegetables including indigenous vegetables	Okra, Brinjals, Kales, Spinach, Tomatoes, Amaranthus, African night shade, Spider weeds, pumpkins and other vegetables including indigenous vegetables
<b><i>6. Cassava</i></b>	Tajirika, Shibe, Karemba, Nzalauka, Siri, Karibuni, Guzo, Mucericeri, Locals	Tajirika, Shibe, Karemba, Nzalauka, Siri, Karibuni, Guzo, Mucericeri, Locals	Tajirika, Shibe, Karemba, Nzalauka, Siri, Karibuni, Guzo, Mucericeri, Locals
<b><i>7. Sweet Potatoes</i></b>	Mtwapa 8, Irene, Kenspot, Locals	Mtwapa 8, Irene, Kenspot, Locals	Mtwapa 8, Irene, Kenspot, Locals
<b><i>8. Millets</i></b>	Finger millet, Pearl Millet	Finger millet, Pearl Millet	Finger millet, Pearl Millet
<b><i>9. Green Grams</i></b>	N26, KS20, Biashara, Karemba, Dengu Tosha	N26, KS20, Biashara, Karemba, Dengu Tosha	N26, KS20, Biashara, Karemba, Dengu Tosha
<b><i>10. Sorghum</i></b>	Gaddam, Serena, Seredo, Kari Mtama 1,	Gaddam, Serena, Seredo, Kari Mtama 1,	Gaddam, Serena, Seredo, Kari Mtama 1,
<b><i>11. Simsim</i></b>	Black, White	Black. White	Black, White
<b><i>12. Sunflower</i></b>	Fedha, Hysun	Fedha, Hysun	Fedha, Hysun



## Specific Agro-weather Advisories for the worst-case scenario [drought hot spots].

<b>Crops to plant</b>	<b>Wards: Gongoni</b>  Probable OND 2025 amount: <b>100-200 mm</b>	<b>Wards: Adu, Marafa East, Magarini, Malindi Town</b>  Probable OND 2025 amount: <b>100-250 mm</b>	<b>Wards: Sabaki</b>  Probable OND 2025 amount: <b>200-250 mm</b>
1. Maize	Not recommended	Not recommended	DHO4, PH1, Sungura, Duma 43 & 46, Pioneer and DK 8033 & 8031
2. Beans	GLP 92, Nyota	GLP 92, Nyota	GLP 92, Nyota
3. Cow Peas	K80, M66, Locals, Ken Kunde, Kunde mboga, Kunde Faulu	K80, M66, Locals, Ken Kunde, Kunde mboga, Kunde Faulu	K80, M66, Locals, Ken Kunde, Kunde mboga, Kunde Faulu, M-pesa
4. Pigeon peas	Mbaazi 1, M-pesa (ICPE 01552) & Local variety	Mbaazi 1, M-pesa (ICPE 01552) & Local variety	Mbaazi 1, M-pesa (ICPE 01552) & Local variety
5. vegetables	Indigenous vegetables	Indigenous vegetables	Okra, Brinjals, Kales, Spinach, Tomatoes, Amaranthus, African night shade, Spider weeds, pumpkins and other vegetables including indigenous vegetables
6. Cassava	Tajirika, Shibe, Karemba, Nzalauka, Siri, Karibuni, Guzo, Mucericeri, Locals	Tajirika, Shibe, Karemba, Nzalauka, Siri, Karibuni, Guzo, Mucericeri, Locals	Tajirika, Shibe, Karemba, Nzalauka, Siri, Karibuni, Guzo, Mucericeri, Locals
7. Sweet Potatoes	Mtwapa 8, Irene, Kenspot, Locals	Mtwapa 8, Irene, Kenspot, Locals	Mtwapa 8, Irene, Kenspot, Locals
8. Millets	Finger millet, Pearl Millet	Finger millet, Pearl Millet	Finger millet, Pearl Millet
9. Green Grams	N26, KS20, Biashara, Karemba, Dengu Tosha	N26, KS20, Biashara, Karemba, Dengu Tosha	N26, KS20, Biashara, Karemba, Dengu Tosha
10. Sorghum	Gaddam, Serena, Seredo, Kari Mtama 1,	Gaddam, Serena, Seredo, Kari Mtama 1,	Gaddam, Serena, Seredo, Kari Mtama 1,
11. Simsim	Black, White	Black. White	Black, White
12. Sunflower	Fedha, Hysun	Fedha, Hysun	Fedha, Hysun

#### 4.4 General Analysis of Hazards/Risks and Opportunities (agriculture and fisheries).

Hazards /risks	Opportunities	Proposed actions
<ul style="list-style-type: none"> <li>Flash floods_occasional storms</li> <li>Soil erosion</li> <li>logging due to strong winds cyclones</li> <li>Outbreak of crop pests and diseases due to higher temperatures</li> <li>False on-set of rains</li> <li>Poor germination and loss of seeds</li> <li>Stunted growth of crops due to prolonged dry spells</li> <li>Low crop yields</li> <li>Loss of inputs and poor crop establishment</li> <li>Food insecurity and poor farm incomes</li> <li>Cyclone/tropical storm risk</li> <li>Deteriorated ocean conditions</li> </ul>	<ul style="list-style-type: none"> <li>Fruit tree farming to take advantage of late cessation and occasional storms</li> <li>Water harvesting for use during dry spells</li> <li>Maximizing yields and income through planting recommended drought tolerant varieties</li> <li>Adopt climate smart technologies in crop production e.g. zai pits, use of manure, cover crops, etc.</li> <li>Increase area under cassava production</li> <li>Increase farm forest cover through farmer managed natural regeneration</li> <li>Availing of the right certified farm inputs by agro-dealers</li> <li>Kitchen gardening</li> <li>Insuring of crops against drought</li> <li>Insuring of fish value chains against storms</li> </ul>	<ul style="list-style-type: none"> <li>Establish agroforestry</li> <li>Establish new and repair existing soil and water conservation structures and farm facility structures</li> <li>Crop diversification</li> <li>Early and appropriate land preparation (chiesel ploughing)</li> <li>Timely procurement of inputs</li> <li>Embrace Integrated Pest Management and Integrated Crop Management</li> <li>Procurement of crop insurance</li> <li>Construction of water pans and dams with high priority in Magarini, Ganze and Kaloleni sub counties.</li> <li>Practice aquaculture which is less vulnerable to storms</li> <li>Practice mariculture of seaweed as an alternative livelihood to fishing</li> <li>Embrace carbon trading through mangrove replanting as an alternative livelihood to fishing</li> </ul>

## 4.5 Highlights for livestock advisories.

### Specific advisories for Livestock farmers;

Recommended Actions	Hazard/Risks	Opportunities	Ward	Responsible
<ul style="list-style-type: none"> <li>✓ <b>Fodder conservation</b></li> <li>• Hay making (Baling of grass)</li> <li>• Harvesting and storage of residue (maize stovers, and by products of grain processing: brans, jams etc.)</li> <li>• Harvesting and preservation of leaves from forage trees (Laucaena, gliri</li> </ul>	<ul style="list-style-type: none"> <li>• Livestock diseases, pest and Parasites infestation, Low pasture and fodder establishment</li> <li>• Inadequate pasture and fodder planting materials</li> </ul>	<ul style="list-style-type: none"> <li>• Forage Conservation</li> <li>• Homestead feed rationing</li> <li>• Breed selection, breeding/mating plan</li> <li>• Cross breeding/improve ment/upgrading-for drought and disease resistant breeds</li> <li>• Value addition</li> </ul>	All wards	<p>County directorate of livestock production</p> <p>National Government projects, non-state actors (NGOs, CBOs), Farmers</p> <p>Volunteers,</p>

<ul style="list-style-type: none"> <li>• Supplement with edible vegetable leftovers from the market</li> </ul>	<ul style="list-style-type: none"> <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>• Water harvesting and storage</li> <li>• Increase of small stock number</li> <li>• Reduce large stock number</li> </ul>		<p>Inputs suppliers Service providers Farmers</p> <p>Extension officers</p> <p>NGOs (ADS Pwani, World Vision, Plan International, Samaritan Purse, WWF, Nature Kenya, COBEC) Research (KALRO) and academia (Pwani University)</p> <p>Other stakeholders</p>
<p>✓ <b>Pastures/fodder to be established</b></p> <ul style="list-style-type: none"> <li>• Panicum maximum - <i>Mondo</i></li> <li>• Nappier- <i>mapingopingo</i></li> <li>• Moringa- <i>muzungwi</i></li> <li>• Leucaena- <i>lukina</i></li> <li>• Sorghum- <i>mtama</i></li> <li>• Bracharia- <i>bracharia</i></li> <li>• Gliricidia- <i>gliricidia</i></li> <li>• Cowpeas- <i>kunde</i></li> <li>• Cencrus ciliaris (African fox tail)- <i>nyasi ya mbweha</i></li> <li>• <i>Eragrostis superba</i></li> <li>• Sunflower- <i>Alizeti</i></li> <li>• Thevetia Peruviana - <i>Mkode</i></li> <li>• Cynodone dactylion <i>Kitoja Kafunga kima</i>)-Lukoka</li> <li>• Ziziphus Mauritania - <i>mkunazi</i></li> <li>• Melia volcansa- <i>Kirumbutu</i></li> </ul> <p>✓ <b>Soil and Water Conservation</b></p> <ul style="list-style-type: none"> <li>• Roof catchment</li> <li>• Farm ponds</li> </ul>	<ul style="list-style-type: none"> <li>• Illegal grazers</li> <li>• Theft</li> <li>• Low Fodder establishment</li> <li>• Poor quality seeds</li> <li>• Rain failure</li> <li>• Accident</li> <li>• Conflicts</li> <li>• Leakages</li> <li>• Injuries</li> <li>• Breeding group for parasitic organisms</li> </ul>	<ul style="list-style-type: none"> <li>• Available natural pasture.</li> <li>• Available fodder trees</li> <li>• Established pasture</li> <li>• Availability of seeds</li> <li>• Knowledge available</li> <li>• Land available</li> <li>• Labor</li> <li>• Tools available</li> <li>• Skilled officers</li> <li>• Input supplies</li> </ul>		

<ul style="list-style-type: none"> <li>• Water pans</li> <li>• Boreholes</li> <li>• Water harvesting techniques – zaipits, v-bund, U-bund</li> <li>• Micro catchment conservation-tree planting-</li> </ul> <p>✓ <b>Breed improvement</b></p> <ul style="list-style-type: none"> <li>• AI services</li> <li>• Drought tolerant improved breeds, galla goats</li> </ul> <p>✓ <b>Adoption of modern livestock production technologies</b></p> <ul style="list-style-type: none"> <li>• Adoption of modern beekeeping technologies</li> <li>• Poultry production technology-housing - feeding incubation</li> </ul> <p>✓ <b>Modern Animal health management practices.</b></p> <ul style="list-style-type: none"> <li>• Vaccination campaigns</li> <li>• Vector control</li> </ul>				
<p>✓ <b>General Actions</b></p> <ul style="list-style-type: none"> <li>• Fodder Conservation</li> <li>• Fodder establishment</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 conservation of pastures and fodder</li> </ul>				

- Livestock insurance
- Diversification of livestock livelihoods (Meat goats, poultry, beekeeping fish farming)

### Best Case Scenario.

**Wards:** Mariakani, Kaya fungo, Kambe Ribe

**Probable OND 2025 amount:** 250-350 mm

**Wards:** Kaloleni, Mwana Mwinga, Ruruma, Mwawesa Rabai -Kisurutini.

**Probable OND 2025 amount:** 300-350 mm

**Probable onset dates:** 3rd to 4th week of November 2025 with occasional rainfall in October

**Probable cessation dates:** 3rd to 4th week of December

- Farmers to conserve natural and established pasture and Fodder before the onset of rains
- Farmers to plant Bracharia, Napier, Panicum maximum, clitoria, mucuna, Leucaena, Gliricidia for livestock feed security
- Farmers to plant bee forage trees like Sunflower-*Alizeti*, ziziphus mauratania-*mkunazi*, thevetia peruviana-*mkode*.
- Farmers advised to harvest run off water and roof catchment water for livestock use, fodder establishment
- Farmers advised to practice agroforestry in their farms-melia volcansa-*kurumbutu*, Leucaena, gliricidia,
- Farmers to adopt livestock production technologies like proper housing, on farm feed formulation, selection of high producing drought tolerant livestock breeds, proper and timely breeding practices, AI.
- Farmers advised to adopt appropriate animal health management practices: vaccinations, vector control, ticks, tsetse flies, worms, and treatment
- Farmers to take livestock insurance cover through the DRIVE where applicable and other service providers

### Moderate Case Scenario.

**Wards:** Mnarani, Watamu, Dabaso, Kakuyuni, Kibarani Tezo,

**Probable OND 2025 amount:** 200-250mm

**Wards:** Garashi, Jilore, Junju. Chasimba, Matasangoni, Jaribuni, Bamba

**Probable OND 2025 amount:**200-300 mm

**Wards:** Marafa West, Ganze, Marakaya, Mtepeni, Shimo la Tewa, Sokoke

**Probable OND 2025 amount:**250-300 mm

**Probable onset dates:** 3rd to 4th week of November 2025 with occasional rainfall in October

**Probable cessation dates:** 3rd to 4th week of December

- Farmers to conserve natural and established pasture and Fodder before the onset of rains
- Farmers to plant Bracharia, Napier, Panicum maximum, clitoria, mucuna, Leucaena, Gliricidia for livestock feed security
- Farmers to plant bee forage trees like Sunflower-*Alizeti*, ziziphus mauratania-*mkunazi*, thevetia peruviana-*mkode*.
- Farmers advised to harvest run off water and roof catchment for livestock use, fodder establishment
- Farmers advised to practice agroforestry in their farms-melia volcansa-*kurumbutu*, Leucaena, gliricidia,
- Farmers to adopt modern livestock production technologies like proper housing, on farm feed formulation, selection of high producing drought tolerant livestock breeds, proper and timely breeding practices
- Farmers advised to adopt appropriate animal health management practices: vaccinations, vector control, ticks, tsetse flies, worms and treatment
- Farmers to take livestock insurance cover through the DRIVE project Kakuyuni, Chasimba.

## **Worst Scenario.**

**Wards:** Gongoni

**Probable OND 2025 amount:** 100-200 mm

**Wards:** Adu, Marafa East, Magarini, Malindi Town

**Probable OND 2025 amount:** 100-250 mm

**Wards:** Sabaki

**Probable OND 2025 amount:** 200-250 mm

**Probable onset dates:** 3rd to 4th week of November 2025 with occasional rainfall in October

**Probable cessation dates:** 3rd to 4th week of December

- Farmers to conserve natural and established pasture and Fodder before the onset of rains
- Farmers to plant Bracharia, Napier, Panicum maximum, clitoria, mucuna, Leucaena, Gliricidia for livestock feed security
- Farmers to plant bee forage trees like Sunflower-*Alizeti*, ziziphus mauratania-*mkunazi*, thevetia peruviana-*mkode*.
- Farmers advised to harvest run off water and roof catchment for livestock use, fodder establishment
- Farmers advised to practice agroforestry in their farms-Melia volcansa-*kurumbutu*, Leucaena, gliricidia.
- Farmers to adopt modern livestock production technologies like proper housing, on farm feed formulation, selection of high producing drought tolerant livestock breeds, proper and timely breeding practices
- Farmers advised to adopt appropriate animal health management practices: vaccinations, vector control, ticks, tsetse flies, worms and treatment
- Farmers to take livestock insurance cover through the DRIVE project Kakuyuni, Chasimba.



#### 4.6 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

Sector	Impact	Hazards/ Risk	Opportunity	Intervention/Actions	Responsible
Disaster management and special programs.	Few disasters likely to happen. Increased Human-human conflict. Influx of immigrants.	Likelihood of tropical cyclones expected to interfere with season and ocean activities.  Riverine Flooding.  Famine.  Structural damages-strong winds.  Gender based violence.  Early marriages.	Leverage on salvaged produce.	Emergency operation system.  Contingency plans.  Early warning systems.  Humanitarian hub.	National Drought Management Authority, NGOs, Governments, Faith Based Organization  Meteorological Department.  Search and Rescue team.  CMDRR team  Community managed climate change risks team.

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  National & County Government  Farmers
Trade, industry and finance	commodity price increase  Reduced per capita incomes	Famine/ drought/st arvation	Prudent utilization of current strategic grain reserves, Importation of essential food commodities	Subsidized trader  Reduced credit interests	Dept of Trade, Business Community, National & County Government
Energy	Energy infrastructure network collapse	Electrocution, Temporary blackouts,	Maintenance of KPLC infrastructures , Investment on	Allocate emergency funds, subsidy on fuel especially for domestic use	Kenya Power

<b>Sector</b>	<b>Impact</b>	<b>Hazards/ Risk</b>	<b>Opportunity</b>	<b>Intervention/Actions</b>	<b>Responsible</b>
			alternative energy sources		
	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.  Riverine Flooding.  Rough Seas.	Road for water harvesting.  Bow lake fishing.	Diversion channels.  Emergency funds /Personnel, unclogging of culverts.  Establish SAR Services.  Establish Early warning system.	Dept of Transport, NTSA, National Government, County Government.  Meteorological Department.  Search and Rescue team.  CMDRR team  Community managed climate change risks team
Health	Increased Food insecurity	Increased Malnutrition, Increased food deficient related ailments,  Stunted growth to children.	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 performance.	Poor school infrastructure, Destruction of structures by strong winds.	Initiation of School feeding Program.	Early warning and preparedness	Dept of Education, NGOs, Faith Based Organizations, Parents.  Meteorological Department.
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## 4.7 Recommendations.

1. Choosing the right crops to plant:
  - a. To minimize risks, chose crops whose seasonal Crop Water Requirement is within the lowest limit value of the predicted range.
2. Onset date versus planting dates:
  - a. For those wishing to **dry plant**, it is advisable to plant in the **1<sup>st</sup> week** of the forecasted onset dates.
  - b. For those wishing to **wet plant**, it is advisable to wait for the **weekly weather updates**.
  - c. **Dry or Wet**, Plant when the **weekly forecast** indicates at least **3-days** with rain of a total amount **greater than 20 mm**.
3. Stay Updated with Weather Forecasts.
  - a. Regularly check **weekly weather** updates

### 4. How to get Weather Updates.

- You can get weekly weather updates from "COUNTY FORECASTS" folder in the Kenya Meteorological Department (KMD) Website i.e., <https://meteo.go.ke/node/4942> every Monday evening or Tuesday morning.

**Mr. Emmanuel Daidoh Nyiro.**

**County Director of Meteorological Services, Kilifi County.**