



## KENYA CEREAL ENHANCEMENT PROGRAMME-CLIMATE RESILIENT AGRICULTURAL LIVELIHOODS WINDOW (KCEP-CRAL)

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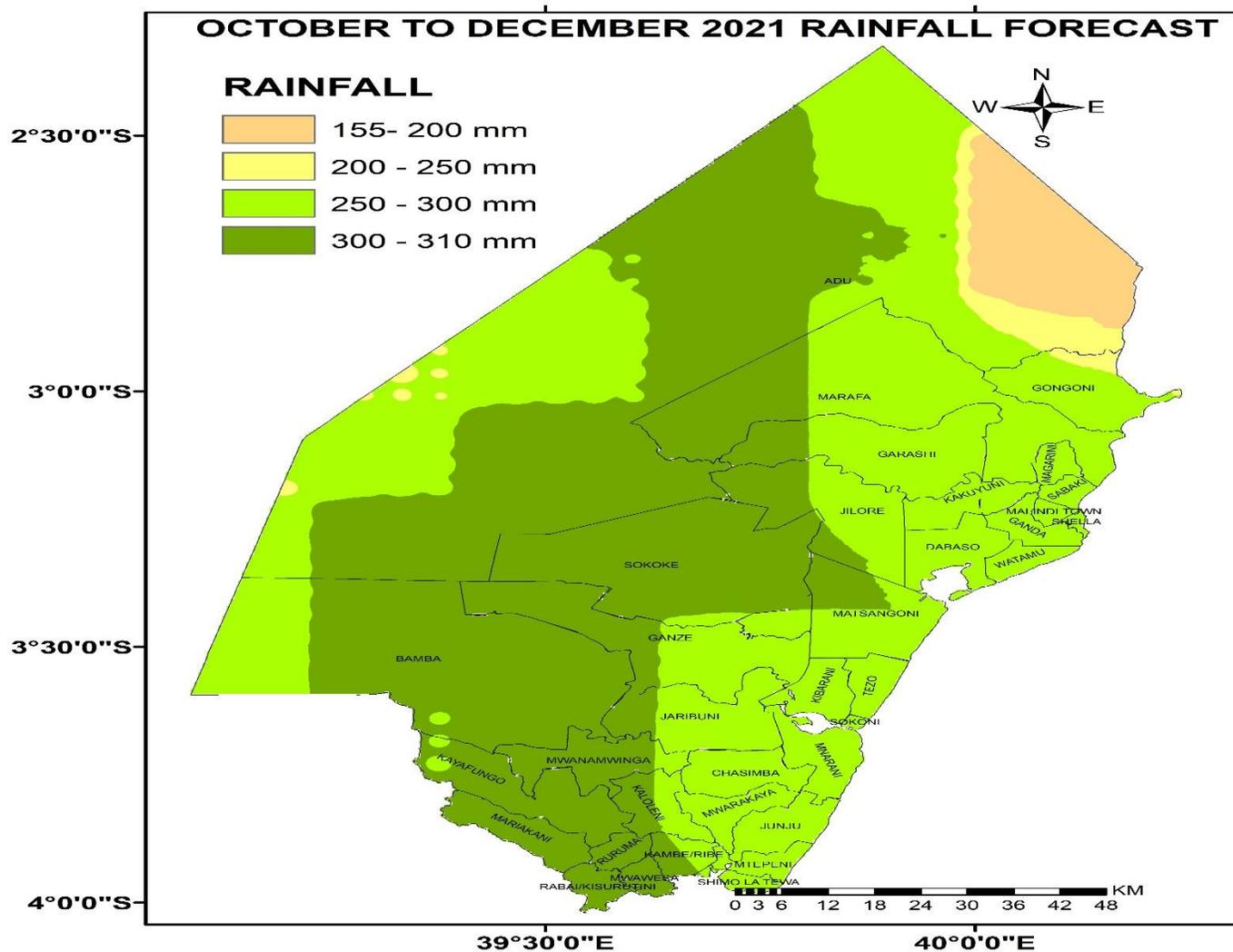
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### SEASONAL WEATHER ADVISORIES FOR KILIFI COUNTY OCTOBER- DECEMBER SEASON

#### **About this advisory**

October-November-December (OND) `Short Rains` season is an important rain season in Kilifi county especially in the inland areas hence farmers rely on this season very much. Majority of the population in the county derive their livelihood from crop production, livestock keeping, fisheries etc. This forecast was coproduced through participatory scenario planning between Kenya Meteorological Services, the farming communities and experts from the agricultural sector in Kilifi County. The forecast is geared towards assisting the farming communities and all the related sectors with proper guidelines hence inform decision making in a sustainable way in Kilifi County.

# Weather forecast for the October- December 2021 Season



# OCTOBER TO DECEMBER LTM RAINFALL

## RAINFALL

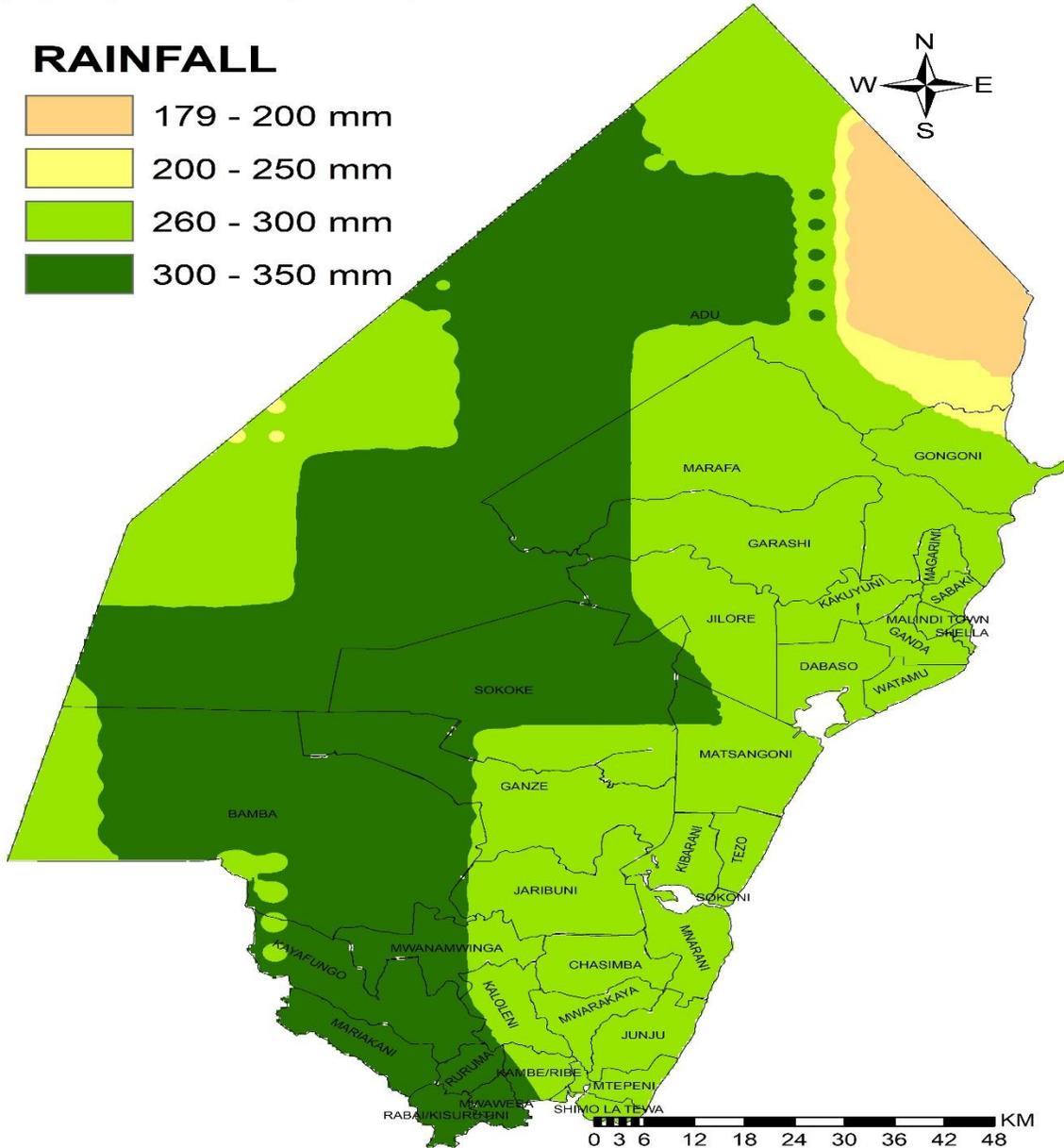


2°30'0"S

3°0'0"S

3°30'0"S

4°0'0"S



39°30'0"E

40°0'0"E

## **THE WEATHER FORECAST FOR KILIFI COUNTY\_ OND,2021**

The outlook for OND 2021 forecast indicates that the County (Malindi, Kilifi South, Kilifi North, Kaloleni, Rabai, Magarini and Ganze sub-counties) is expected to experience near average tending to below normal rainfall. The distribution is likely to be poor both in time and space and with a shorter rain period. The onset is likely to be late and between the 1<sup>st</sup> and 2<sup>nd</sup> week of November, 2021. The rains are expected to go up to the 1<sup>st</sup> and 2<sup>nd</sup> week of December,2021. In December, rainfall is expected to reduce. Some floods episodes are expected to occur at the low-lying areas in the county during November since the County is expected to realize its rainfall peak in the month.

### **Rainfall onset**

**Start of rainy season:** - Rainfall is expected to start between 1<sup>st</sup> and 14<sup>th</sup> of November 2021 over the county.

### **Rainfall cessation**

**End of rainy season:** - Rainfall is expected to end within 1<sup>st</sup> and 14<sup>th</sup> of December 2021.

### **Distribution of rainfall over time**

The rainfall distribution is expected to be poor both in space and time. The peak rainfall is likely to occur during the month of November 2021. Rainfall duration may be between 4 to 6 weeks.

### **Probable volume of rainfall**

Rainfall is expected to range from 155mm to 310 mm which is below the climatology of 179mm to 350mm in diverse parts of the county.

**Seasonal update will be provided by KMD if the above predictions (amount, onset, cessation) changes**

**There will also be weekly and monthly weather updates**

**Updates can be obtained from KMD website, SMS and FM Radio (SBS, Msenangu, Lulu FM)**

## **Agronomic advisories**

**Magarini & Ganze sub-counties:** - Few parts of Magarini & Ganze sub-counties will receive 300-310mm while several places in these two sub-counties will receive 250-300mm, however a small section of Hadu is likely to receive 155-200mm.

### **Ganze sub-county (Bamba, Ganze, Jaribuni, Sokoke wards)**

- Bamba: few areas will receive 250-300mm, several places will receive 300-310mm.
- Ganze & Jaribuni: few areas will receive 300-310mm, several places will receive 250-300mm.
- Sokoke: most areas will receive 300-310mm, very few places will receive 250-300mm

### **Magarini Sub-county (Garashi, Adu, Magarini, Gongoni, Sabaki, Marafa wards)**

- Garashi & Marafa: few areas will receive 300-310mm, several places will receive 250-300mm
- Adu: few areas will receive 300-310mm, few areas will receive 155-200mm, several places will receive 250-300mm
- Magarini & Sabaki: entire ward will receive 250-300mm
- Gongoni: few areas will receive 200-250mm, several places will receive 250-300mm.

**Kaloleni & Rabai sub-counties:** - Most parts of Kaloleni & Rabai sub-counties will receive 300-310mm.

### **Kaloleni sub-county (Kayafungo, Mwanamwinga, Kaloleni, Mariakani wards)**

- Kayafungo & Mwanamwinga: most areas will receive 300-310mm, very few places will receive 250-300mm
- Kaloleni: half of Kaloleni will receive 300-310mm and 250-300mm respectively
- Mariakani: entire ward will receive 300-310mm

**Rabai sub-county (Rabai, Ruruma, Kambe Ribe, Mwawesa wards)**

- Kambe Ribe: half of the ward will receive 300-310mm and 250-300mm respectively
- Mwawesa, Rabai & Ruruma: entire wards will receive 300-310mm.

**Kilifi north, Kilifi south & Malindi sub-counties:** - Most parts of Kilifi north, Kilifi south & Malindi sub-counties will receive 250-300mm.

**Kilifi north sub-county(Matsangoni, Dabaso,Tezo, Mnarani, Kibarani,Watamu, Sokoni)**

- Matsangoni: few areas will receive 300-310mm, several places will receive 250-300mm.
- Dabaso,Tezo, Mnarani, Kibarani,Watamu, Sokoni: entire wards will receive 250-300mm

**Kilifi south sub-county (Junju,Mtepeni,Chasimba, Mwarakaya, Shimo la Tewa)**

- Junju,Mtepeni,Chasimba, Mwarakaya, Shimo la Tewa: entire wards will receive 250-300mm.

**Malindi sub-county (Kakuyuni, Ganda, Malindi, Jilore, Shella)**

- Kakuyuni, Ganda,Malindi, Shella: entire wards will receive 250-300mm
- Jilore: few areas will receive 300-310mm, several places will receive 250-300mm.

Farmers are advised to liaise with experts in the Agricultural sector for advice on the right type and variety of crops to be grown, preferably early maturing and drought tolerant like sorghum, green grams, bulrush millet and cowpeas. Farmers are advised to embrace conservation agriculture practices such as use of mulch, farmyard manure, Zaipits, fertility trenches, farm ponds and rainwater harvesting for kitchen gardens to cope with the dry spells and take advantage of possible storms.

Farmers should also prepare for possible pest and disease infestation due to the expected rise in temperatures. Planting should be done immediately after onset and weeding should be done 2 weeks after germination. Folia vegetative spray, pesticides & fungicides spraying should be done 3 weeks after germination. 2<sup>nd</sup> folia vegetative spray should be done 4 weeks after germination. Fruit spray, flower spray & 2<sup>nd</sup> pesticide and fungicide spray be done 5 weeks after germination.

Environment sector and communities should take advantage of the rains to plant trees that are drought tolerant to control microclimate, enhance ground water recharge, minimise surface runoff, enhance carbon sequestration and mitigate climate change. People living in flood prone areas should prepare for occasional storms that may result to flash floods. Repair of loose surface roads to avoid accidents that may occur due to slippery roads is recommended.

The education sector may need feeding programmes to reduce the effects of drought. Experts in water and health sectors are expected to advise on the best interventions in the light of the expected rains.

#### AGRONOMY ADVISORIES FOR OND, 2021 FOR KILIFI COUNTY.

SCENARIO	ACTION	ADVISORY						
NORMAL		Cereals	Legumes	Flat areas	Slope areas	Hill areas	Valley areas	RESPONSIBLE PERSON
	SOIL AND WATER MANAGEMENT			-Construction of ridges for flat land	-Construct cut-off drains on land above 45% slope -Construct terraces and stabilize with appropriate vegetation	-Construct cut-off drains on land above 45% slope -Construct terraces and stabilize with appropriate vegetation -Construction of ridges for flat land	-Construct terraces and stabilize with appropriate vegetation -Construction of ridges for flat land	Agricultural Extension officer and farmer.
	LAND PREPARATION			-Conservation agriculture	-Conservation agriculture	-Conservation agriculture	-Conservation agriculture	Agricultural Extension officer

								and farmer.
	<b>CHOICE OF SEED</b>	1.Sorghum 2.Bulrush millet(Mawele)	1. Cowpeas (KEN KUNDE or KAIMA KOKO), 2. Green grams eg. N26, Ks20	Timely planting when rain start from 1 <sup>st</sup> November. Sorghum, Bulrush millet, Cowpeas (KEN KUNDE or KAIMA KOKO), Green grams eg. N26, Ks20. Promote CA, Add manure, use mulch, build fertility trenches, use ponds	Timely planting when rain start from 1 <sup>st</sup> November. Sorghum, Bulrush millet, Cowpeas (KEN KUNDE or KAIMA KOKO), Green grams eg. N26, Ks20. Promote CA, Water harvesting technology. (Zai pit, water pans) Building terraces, add manure	Timely planting when rain start from 1 <sup>st</sup> November. Sorghum, Bulrush millet, Cowpeas (KEN KUNDE or KAIMA KOKO), Green grams eg. N26, Ks20. Promote CA, Water harvesting technology. (Zai pit) building terraces, planting leguminous trees, add manure	Timely planting when rain start from 1 <sup>st</sup> November. Sorghum, Bulrush millet, Cowpeas (KEN KUNDE or KAIMA KOKO), Green grams eg. N26, Ks20. Promote water holes, ridges, raised beds, Plant: rice, sugarcane, bananas, arrowroots, add manure	Farmers and extension officers Through Chiefs Baraza, Local radio, KCEP farmer Groups and service providers, Posters, SMS
	PLANTING			• Plant from the start of rains 1 <sup>st</sup> to 14 <sup>th</sup> November, 2021	• Plant from the start of rains 1 <sup>st</sup> to 14 <sup>th</sup> November, 2021	• Plant from the start of rains 1 <sup>st</sup> to 14 <sup>th</sup> November, 2021	• Plant from the start of rains 1 <sup>st</sup> to 14 <sup>th</sup> November, 2021	Agricultural Extension officer and farmer.
	WEEDING/WEED CONTROL			Weed 2weeks after germination. Practise conservation agriculture	Weed 2weeks after germination. Practise conservation agriculture	Weed 2weeks after germination. Practise conservation agriculture	Weed 2weeks after germination. Practise conservation agriculture	Agricultural Extension officer and farmer.
	Pest and disease management			1 <sup>st</sup> spraying: Spray with recommended	-1 <sup>st</sup> spraying: Spray with recommended	-1 <sup>st</sup> spraying: Spray with recommended Fungicides, pesticides	-1 <sup>st</sup> spraying: Spray with recommended Fungicides,	Agricultural Extension

				<p>Fungicides, pesticides &amp; vegetative folia feed 3 weeks after germination.  2<sup>nd</sup> spraying: Spray with vegetative folia feed 4weeks after germination.  3<sup>rd</sup> spraying: Spray with fruit &amp; flower folia + pesticide 5weeks after germination.</p>	<p>Fungicides, pesticides &amp; vegetative folia feed 3 weeks after germination.  2<sup>nd</sup> spraying: Spray with vegetative folia feed 4weeks after germination.  3<sup>rd</sup> spraying: Spray with fruit &amp; flower folia + pesticide 5weeks after germination</p>	<p>&amp; vegetative folia feed 3 weeks after germination.  2<sup>nd</sup> spraying: Spray with vegetative folia feed 4weeks after germination.  3<sup>rd</sup> spraying: Spray with fruit &amp; flower folia + pesticide 5weeks after germination</p>	<p>pesticides &amp; vegetative folia feed 3 weeks after germination.  2<sup>nd</sup> spraying: Spray with vegetative folia feed 4weeks after germination.  3<sup>rd</sup> spraying: Spray with fruit &amp; flower folia + pesticide 5weeks after germination</p>	<p>officer and farmer.</p>
	Post-harvest management			<ul style="list-style-type: none"> <li>-Sort and dry grain to recommended moisture levels.</li> <li>-Do moisture tests with Eos.</li> <li>-Dry on tarpauline (tonobari).</li> <li>-Dust and store in airtight containers (hermetic bags).</li> </ul>	<ul style="list-style-type: none"> <li>- Sort and dry grain to recommended moisture levels.</li> <li>-Do moisture tests with Eos.</li> <li>-Dry on tarpauline (tonobari).</li> <li>-Dust and store in airtight containers (hermetic bags).</li> </ul>	<ul style="list-style-type: none"> <li>- Sort and dry grain to recommended moisture levels.</li> <li>-Do moisture tests with Eos.</li> <li>-Dry on tarpauline (tonobari).</li> <li>-Dust and store in airtight containers (hermetic bags).</li> </ul>	<ul style="list-style-type: none"> <li>Sort and dry grain to recommended moisture levels.</li> <li>-Do moisture tests with Eos.</li> <li>-Dry on tarpauline (tonobari).</li> <li>-Dust and store in airtight containers (hermetic bags).</li> </ul>	<p>Agricultural Extension officer and farmer.</p>

**TAHADHARI YA KILIMO MSIMU WA VULI,2021 \_KILIFI COUNTY**

<b>Zaidi ya kawaida</b>	<b>Hatua / Zoezi</b>							
	<ul style="list-style-type: none"> <li>• Kuhifadhi maji na Udongo</li> </ul>			<ul style="list-style-type: none"> <li>• Chimba mitaru kuzunguka milima yenye miinuko zaidi ya 45%.</li> <li>• Kutengeneza mtaru wa kupunguza kasi ya mteremko wa maji na kupanda mimea ya kuthibiti mmomonyoko wa udongo</li> </ul> <p>Tengeneza matuta kwenye arthi tambarare.</p>	<ul style="list-style-type: none"> <li>• Chimba mitaru kuzunguka milima yenye miinuko zaidi ya 45%.</li> <li>• Kutengeneza mtaru wa kupunguza kasi ya mteremko wa maji na kupanda mimea ya kuthibiti mmomonyoko wa udongo</li> </ul> <p>Tengeneza matuta kwenye arthi tambarare.</p>	<ul style="list-style-type: none"> <li>• Chimba mitaru kuzunguka milima yenye miinuko zaidi ya 45%.</li> <li>• Kutengeneza mtaru wa kupunguza kasi ya mteremko wa maji na kupanda mimea ya kuthibiti mmomonyoko wa udongo</li> </ul> <p>Tengeneza matuta kwenye arthi tambarare.</p>	<ul style="list-style-type: none"> <li>• Chimba mitaru kuzunguka milima yenye miinuko zaidi ya 45%.</li> <li>• Kutengeneza mtaru wa kupunguza kasi ya mteremko wa maji na kupanda mimea ya kuthibiti mmomonyoko wa udongo</li> </ul> <p>Tengeneza matuta kwenye arthi tambarare.</p>	Mkulima, mfanyaka zi wa nyanjani
	<ul style="list-style-type: none"> <li>• Kutayarisha mashamba</li> </ul>			<ul style="list-style-type: none"> <li>• Tumia mbinu mwafaka za kutayarisha shamba kama vile kilimo hifadhi</li> </ul>	<ul style="list-style-type: none"> <li>• Tumia mbinu mwafaka za kutayarisha shamba kama vile kilimo hifadhi</li> </ul>	<ul style="list-style-type: none"> <li>• Tumia mbinu mwafaka za kutayarisha shamba kama vile kilimo hifadhi</li> </ul>	<ul style="list-style-type: none"> <li>• Tumia mbinu mwafaka za kutayarisha shamba kama vile kilimo hifadhi</li> </ul>	Mkulima, mfanyaka zi wa nyanjani
	Chaguo la aina ya mbegu	<ul style="list-style-type: none"> <li>• Mtama</li> <li>• Mawele</li> </ul>	<ul style="list-style-type: none"> <li>• Pojo: KS 20, N26.</li> <li>• Kunde(KE N KUNDE, KAIMA KOKO)</li> </ul>					Mkulima, mfanyaka zi wa nyanjani

	Kupanda			<ul style="list-style-type: none"> <li>• Panda Mvua ikianza kati ya 1<sup>st</sup> na 14<sup>th</sup> November, 2021.</li> </ul>	<ul style="list-style-type: none"> <li>• Panda Mvua ikianza kati ya 1<sup>st</sup> na 14<sup>th</sup> November, 2021.</li> </ul>	<ul style="list-style-type: none"> <li>• Panda Mvua ikianza kati ya 1<sup>st</sup> na 14<sup>th</sup> November, 2021.</li> </ul>	<ul style="list-style-type: none"> <li>• Panda Mvua ikianza kati ya 1<sup>st</sup> na 14<sup>th</sup> November, 2021.</li> </ul>	Mkulima, mfanyaka zi wa nyanjani
	Kupalilia/Kuzuiya magugu			<p>Palilia wiki mbili baada ya mmea kuchipuka.</p> <ul style="list-style-type: none"> <li>• Tumia mbinu mwafaka za kutayarisha shamba kama vile kilimo hifadhi</li> </ul>	<p>Palilia wiki mbili baada ya mmea kuchipuka.</p> <ul style="list-style-type: none"> <li>• Tumia mbinu mwafaka za kutayarisha shamba kama vile kilimo hifadhi</li> </ul>	<p>Palilia wiki mbili baada ya mmea kuchipuka.</p> <ul style="list-style-type: none"> <li>• Tumia mbinu mwafaka za kutayarisha shamba kama vile kilimo hifadhi</li> </ul>	<p>Palilia wiki mbili baada ya mmea kuchipuka.</p> <ul style="list-style-type: none"> <li>• Tumia mbinu mwafaka za kutayarisha shamba kama vile kilimo hifadhi</li> </ul>	Mkulima, mfanyaka zi wa nyanjani
	Kuzuiya Wadudu waharibifu na magonjwa			<p>1.Awamu ya kwanza: Nyunyizia dawa ya wadudu wiki tatu baada ya mmea kuchipuza.</p> <p>2.Awamu ya pili: Nyunyizia dawa ya kunawirisha majani wiki tatu baada ya mmea kuchipuza.</p> <p>3.Awamu ya tatu: Nyunyizia dawa ya kunawirisha majani tena wiki nne baada ya mmea kuchipuza</p> <p>4.Awamu ya nne: Nyunyizia dawa</p>	<p>1.Awamu ya kwanza: Nyunyizia dawa ya wadudu wiki tatu baada ya mmea kuchipuza.</p> <p>2.Awamu ya pili: Nyunyizia dawa ya kunawirisha majani wiki tatu baada ya mmea kuchipuza.</p> <p>3.Awamu ya tatu: Nyunyizia dawa ya kunawirisha majani tena wiki nne baada ya mmea kuchipuza</p> <p>4.Awamu ya nne: Nyunyizia dawa</p>	<p>1.Awamu ya kwanza: Nyunyizia dawa ya wadudu wiki tatu baada ya mmea kuchipuza.</p> <p>2.Awamu ya pili: Nyunyizia dawa ya kunawirisha majani wiki tatu baada ya mmea kuchipuza.</p> <p>3.Awamu ya tatu: Nyunyizia dawa ya kunawirisha majani tena wiki nne baada ya mmea kuchipuza</p> <p>4.Awamu ya nne: Nyunyizia dawa ya matunda, majani, maua na wadudu wiki tano</p>	<p>1.Awamu ya kwanza: Nyunyizia dawa ya wadudu wiki tatu baada ya mmea kuchipuza.</p> <p>2.Awamu ya pili: Nyunyizia dawa ya kunawirisha majani wiki tatu baada ya mmea kuchipuza.</p> <p>3.Awamu ya tatu: Nyunyizia dawa ya kunawirisha majani tena wiki nne baada ya mmea kuchipuza</p> <p>4.Awamu ya nne: Nyunyizia dawa ya matunda, majani, maua na wadudu wiki tano</p>	Mkulima, mfanyaka zi wa nyanjani

				ya matunda, majani, maua na wadudu wiki tano baada ya mmea kuchipuza.	ya matunda, majani, maua na wadudu wiki tano baada ya mmea kuchipuza.	baada ya mmea kuchipuza.	baada ya mmea kuchipuza.	
	Kuhifadhi mavuno			-Chagua na kausha. -Fanya jaribio la kiasi cha unyevu na mtalamu wa kilimo. -Kausha kwenye tonobari. -Pepeta na hifadhi kwenye mifuko isiyopitisha hewa (hermetic bags). -Hifadhi nafaka safi iliyo kauka kwenye magunia yenye dawa.	Chagua na kausha. -Fanya jaribio la kiasi cha unyevu na mtalamu wa kilimo. -Kausha kwenye tonobari. -Pepeta na hifadhi kwenye mifuko isiyopitisha hewa (hermetic bags). -Hifadhi nafaka safi iliyo kauka kwenye magunia yenye dawa.	Chagua na kausha. -Fanya jaribio la kiasi cha unyevu na mtalamu wa kilimo. -Kausha kwenye tonobari. -Pepeta na hifadhi kwenye mifuko isiyopitisha hewa (hermetic bags). -Hifadhi nafaka safi iliyo kauka kwenye magunia yenye dawa.	Chagua na kausha. -Fanya jaribio la kiasi cha unyevu na mtalamu wa kilimo. -Kausha kwenye tonobari. -Pepeta na hifadhi kwenye mifuko isiyopitisha hewa (hermetic bags). -Hifadhi nafaka safi iliyo kauka kwenye magunia yenye dawa.	Mkulima, mfanyakazi wa nyanjani

NOTE:

- Planting trees using water harvesting structures e.g. Negarims, V bands, Semi-circular band
- Harvest roof water using locally available technologies
- River bank protection e.g. planting bamboo

**Green grams farming by  
Teresia Kahindi in Kawala,  
Mariakani ward, Kilifi  
County under KCEP  
CRAL& KMD**

Farmers are advised to liaise with experts in the Agricultural sector for advice on the right type and variety of crops to be grown, preferably early maturing and drought tolerant like sorghum, green grams, bulrush millet and cowpeas.



Tahadhari:

- Panda misitu ukitumia mbinu za kuvuna maji e.g Negarims, V-bands na semicircular bands
- Vuna maji kutoka kwa paa la nyumba ukitumia teknolojia fike
- Hifadhi kingo za mito e.g kwa kupanda Mianzi (bamboo)

**Ukulima hifadhi na Bi. Teresia  
Kahindi, Kawala, Mariakani  
ward, Kilifi County  
Akishirikiana na Mradi wa  
KCEP CRAL na Idara ya  
Meteorological**

Farmers are advised to embrace conservation agriculture practices such as use of mulch, farmyard manure, Zaipits, fertility trenches, farm ponds and rainwater harvesting for kitchen gardens to cope with the dry spells and take advantage of possible storms.



## The main climatic zones of Kilifi County

### ONSET & SEASATION OF RAIN

Ranching and livestock zones (1 and 2):  
Onset is 1<sup>st</sup> to 14<sup>th</sup> November and end is 1<sup>st</sup>  
to 14<sup>th</sup> December, 2021

Mixed and crop farming zones (3 and 4):  
onset is 1<sup>st</sup> to 14<sup>th</sup> November and end is 1<sup>st</sup>  
to 14<sup>th</sup> December, 2021

### Climate change, water and natural resource

#### Scenarios for OND 2021

**1. Heavy rains** – expect floods, surface runoff, water table rises, quality of ground water affected

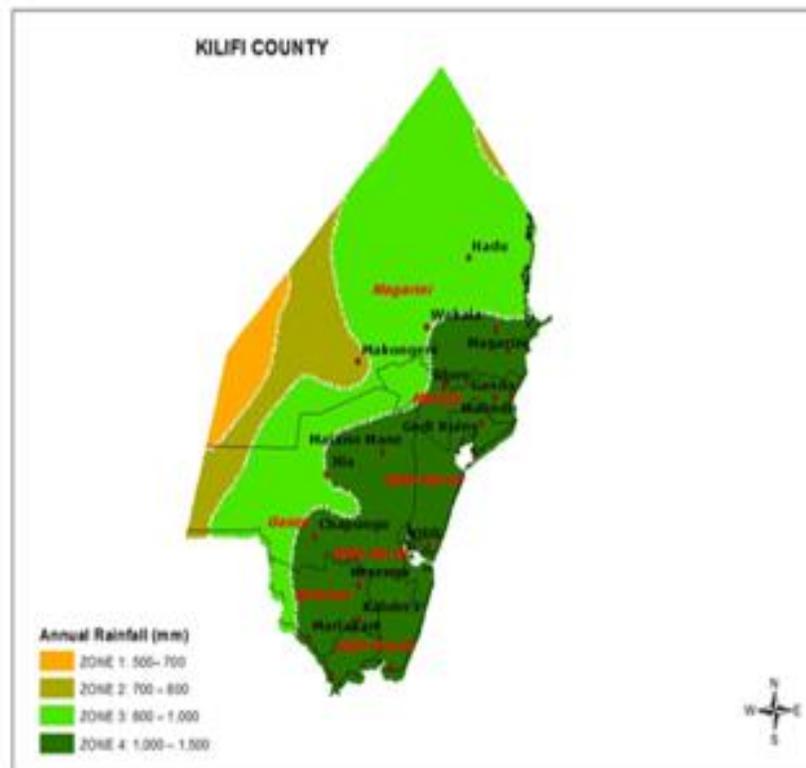
**Advice:** identify flood prone areas, evacuation routes and safety nets, construct water harvesting structures, plant trees to enhance ground water recharge and reduce surface runoff.

**2. Reduced rains** – rivers dry, reduces surface water, drought

**Advice:** identify hot spots, evacuation areas, water tracking.

**3. Increasing air temperature**-expect wilting, heat stress, pest and disease infestation.

**Advice:** plant more trees to control microclimate, pest control as recommended



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