



REPUBLIC OF KENYA

MINISTRY OF ENVIRONMENT AND FORESTRY

KENYA METEOROLOGICAL SERVICE AUTHORITY-KMSA

KISII COUNTY METEOROLOGICAL SERVICES

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OCTOBER TO DECEMBER (OND) 2026 SHORT RAINS SEASON.

Seasonal Climate Outlook Summary: October to December 2026

Above-average rainfall is expected across all parts of **Kisii County** during the upcoming October-December 2026 “Short Rains” season. The rainfall is projected to be well-distributed in both timing and geographical coverage throughout the county.

- **Onset:** The seasonal rains are expected to transition smoothly from September and extend into January 2027.
- **Cessation:** The rainy season is likely to come to an end in January 2027.

The **October–December (OND) 2026** short rains season in **Kisii County** will be heavily influenced by a rare and powerful alignment of three major climate drivers: the Intertropical Convergence Zone (ITCZ), a strong El Niño event, and a positive Indian Ocean Dipole (+IOD).

1. The Intertropical Convergence Zone (ITCZ)

The ITCZ is the primary seasonal driver of rainfall in East Africa. During the OND season, this low-pressure belt moves southward across the equator, bringing convective clouds and precipitation to Kenya. Kisii County, situated in the Lake Victoria Basin, naturally experiences enhanced moisture transport during this transition due to localized lake-breeze convergence. In 2026, the ITCZ acts as the baseline mechanism that delivers the moisture, but its effects will be heavily amplified by the other two climate phenomena.

2. Strong El Niño Conditions

A strong El Niño event has developed in the equatorial Pacific Ocean. El Niño alters global atmospheric circulation, specifically suppressing the Walker circulation. For East Africa, this

shifts the rising arm of the atmospheric cell directly over the region. This causes an increase in ascending air currents, creating highly unstable atmospheric conditions that trigger intense cloud formation and prolonged, heavy rainfall across the western highlands and Kisii County

3. Positive Indian Ocean Dipole (+IOD)

Simultaneously, a positive Indian Ocean Dipole (+IOD) phase has emerged. This means that the sea surface temperatures in the western Indian Ocean (near the East African coast) are significantly warmer than usual, while the eastern side near Indonesia is cooler. This temperature gradient drives massive volumes of moist, warm air from the ocean inland toward the East African landmass

The Combined Effect on Kisii County

When a **strong El Niño** and a **positive IOD** coincide, they act as a "supercharger" for the **ITCZ**. The +IOD pumps exceptional amounts of precipitable moisture into the atmosphere, while El Niño and the ITCZ provide the powerful upward lift required to turn that moisture into heavy storms. For Kisii County, this perfect storm of climate drivers is the direct reason why the 2026 OND seasonal forecast projects highly enhanced, above-average rainfall totals ranging from 496 mm to 765 mm, heavily increasing the risk of flash floods and landslides in hilly areas

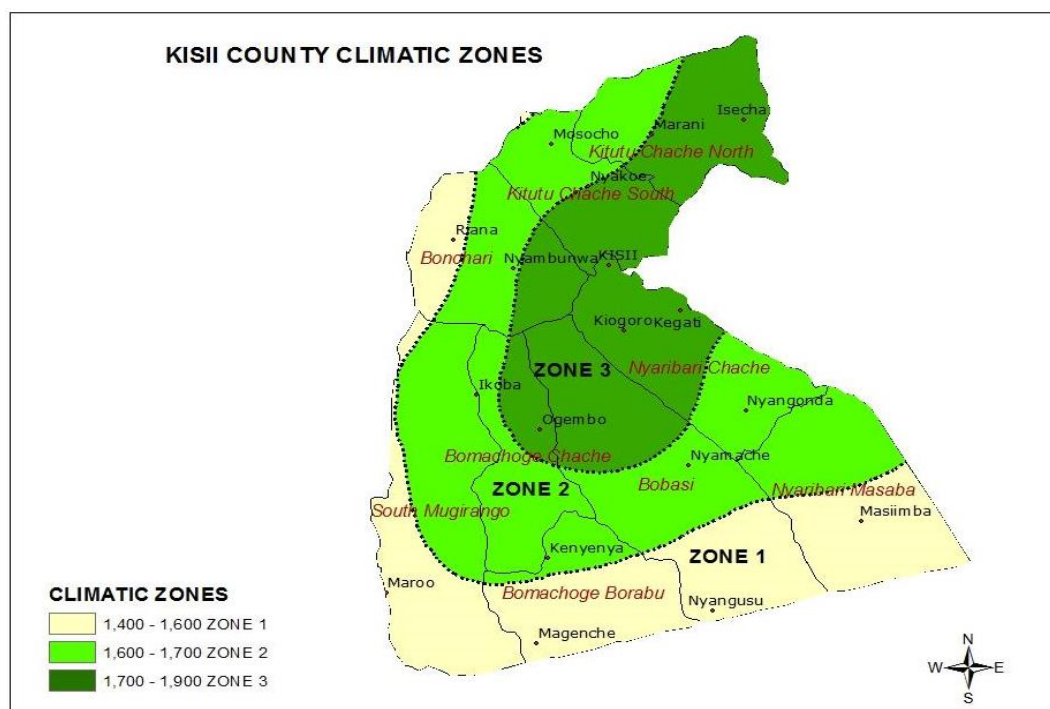


Figure 1: Kisii County climate zones

According to Fig. 1 above, Kisii County is classified into three climatic zones with regard to the amounts of rainfall experienced in the County annually.

- i) Climatic zone 1 comprises of (Nyangusu, Magenche, Masimba, Nyacheke, Riana, and Nyamasibi).
- ii) Climatic zone 2 consists of (Birongo, Mosocho, Nyamache, Nyangonda, Kenyena, Ikoba, Sengera, Riosiri, Sameta, Itumbe).
- iii) Climatic zone 3, is made up of (Kegati, Ibeno, Keumbu, Kiogoro, Bobaracho, Kisii Central, Getare, Boitangare, Marani, Ogembo, Isecha, Nyakoe, Nyambunwa, Nyatieko, Monyerero).

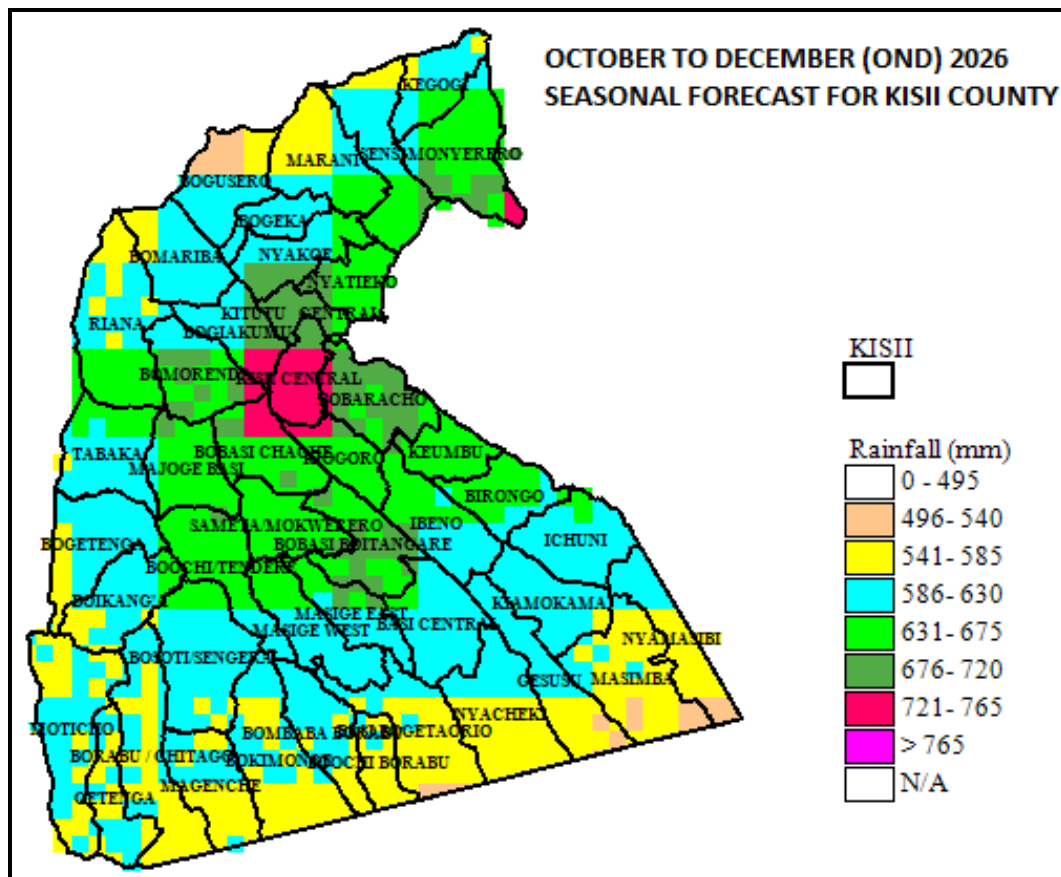


Figure 2. October-November-December (OND) 2026, seasonal Forecast for Kisii County

Figure 2: Forecasted rainfall measurements (mm) for Kisii County during the October–December (OND) 2026 season. The data indicates that various wards across the county will receive rainfall amounts ranging from 496 mm to 765 mm.

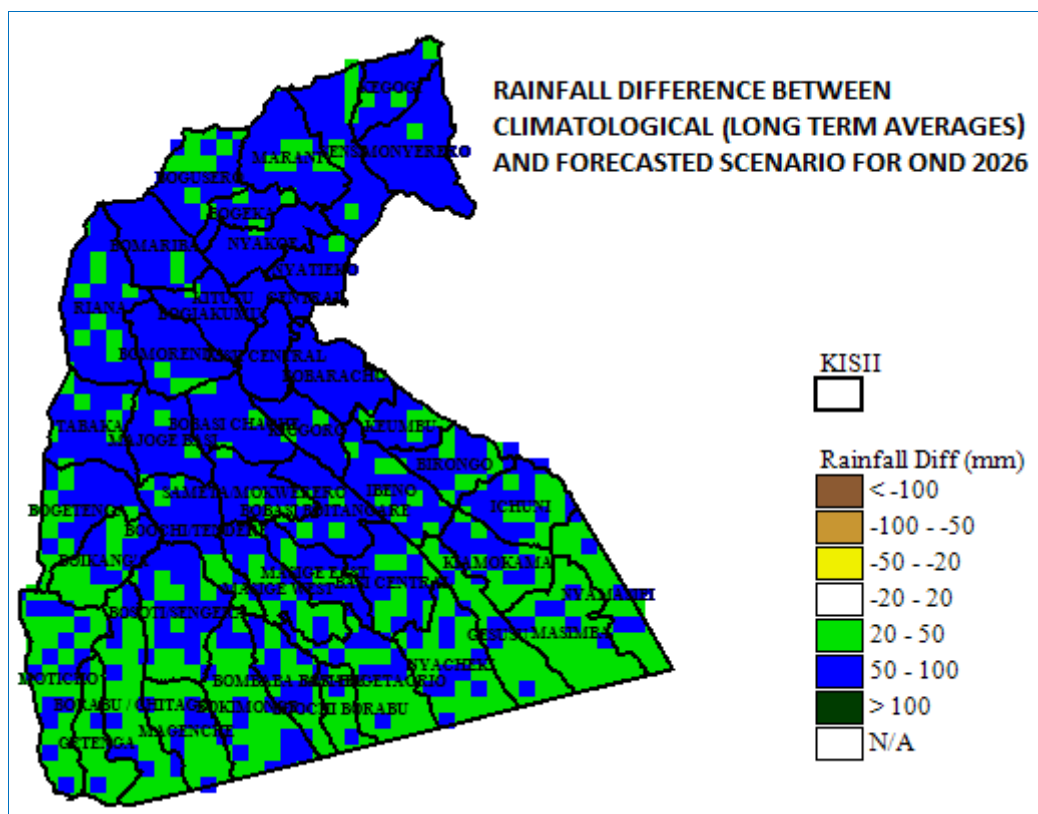


Figure 4: Kisii County rainfall differences between long term (climatology) and the forecasted rainfall ammounts for different parts of the County.

Figure 4: Rainfall anomaly map showing the difference between the 2026 forecast (Figure 2) and the long-term averages (Figure 3). The data indicates that all areas within Kisii County are projected to receive above-average rainfall. Areas shaded in green signify that the forecast exceeds historical averages by 20 mm to 50 mm, while deep blue regions indicate a higher surplus ranging from 50 mm to 100 mm.

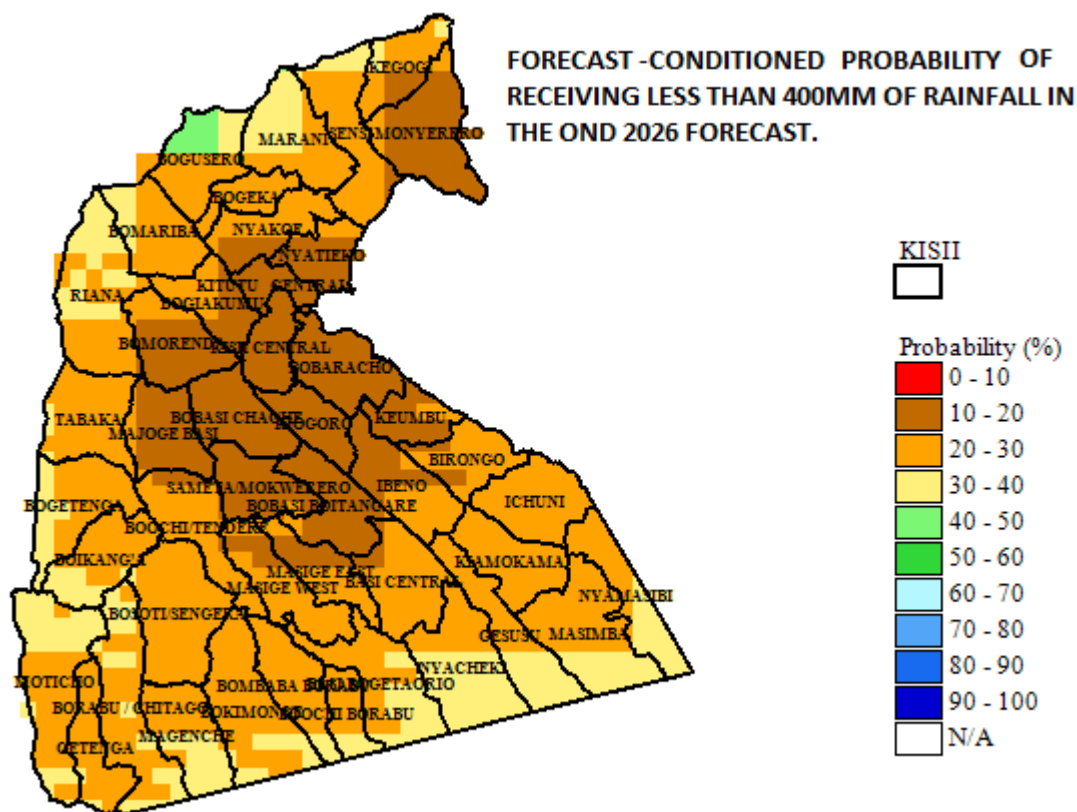


Figure 5:

Figure 5: Forecasted probability of receiving less than 400 mm of rainfall during the OND 2026 season. The map indicates a very low probability of rainfall totals falling below this 400 mm threshold across Kisii County.

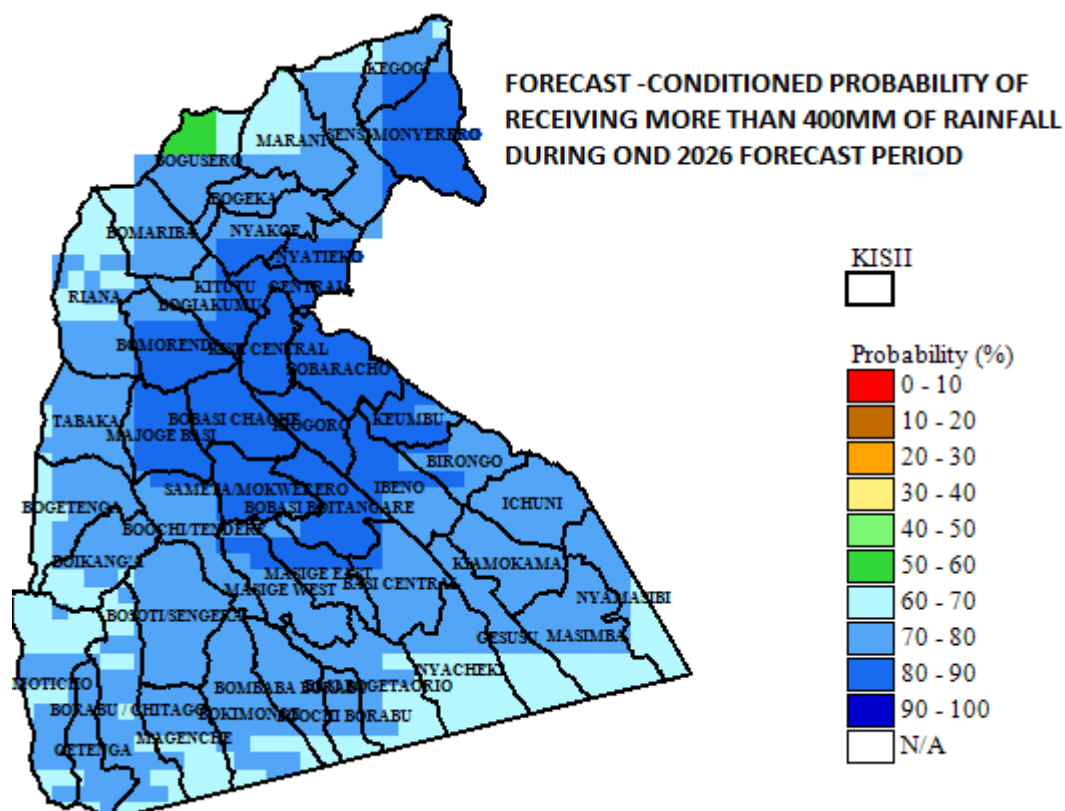


Figure 6: Forecast Probability of receiving more than 400mm of rainfall during the OND 2026 forecast period.

Figure 6: Forecasted probability of exceeding 400 mm of rainfall during the OND 2026 season. The map shows a very high probability (ranging from 60% to 90%) of reaching this threshold, with the gradient from light to deep blue representing increasing probability levels.

Rainfall Performance Classification

Rainfall as % of LTM / Range	Description
< 75%	Below Normal (Depressed) rainfall
75% and 125%	Near normal rainfall
> 125%	Above Normal (Enhanced) rainfall

1. POTENTIAL IMPACTS OF THE OND 2026 SHORT RAINS SEASON'

Given the forecasted above-average seasonal rainfall in Kisii County, various sectors are expected to experience both positive and negative impacts. Timely contingency and emergency measures should be implemented to mitigate potential risks while strategically maximizing the benefits of the enhanced rainfall. The most likely sector-specific impacts include:

1. LIVESTOCK SECTOR

- **Possible Hazards:**

- Outbreaks of vector-borne diseases (e.g., East Coast Fever, Foot-and-Mouth Disease, Lumpy Skin Disease) due to increased tick and mosquito populations.
- Worm infestations due to wet pastures.
- Flash floods in low-lying areas, putting livestock at risk of drowning.
- Water contamination leading to waterborne diseases like anthrax.
- Lightning strikes, which can be a significant hazard to animals grazing in open fields.

- **Areas of Risk:**

- Low-lying grazing lands and riverbanks.

- Communal water points and dams.
- Inadequate animal shelters and kraals.
- Areas with poor drainage.
- **Opportunities:**
 - Abundant pasture and fodder for livestock.
 - Recharge of water sources like dams and water pans.
 - Improved milk production due to good pasture.
- **Advisories:**
 - Livestock officers to sensitize livestock farmers on vaccination against common diseases.
 - Livestock officers to advise farmers on deworming and tick control measures.
 - Livestock officers to encourage farmers to secure animal shelters and move livestock from flood-prone areas.
 - Farmers are advised to promote fodder conservation (hay and silage making) for use during dry spells.
 - Farmers are advised on creating elevated feeding and watering troughs to prevent contamination.

2. CROPS SECTOR

- **Possible Hazards:**
 - Waterlogging in low-lying fields, leading to stunted growth and root rot.
 - Soil erosion on hillsides and sloping lands.
 - Hailstorms causing physical damage to crops, especially cash crops like tea and coffee.
 - Increased pest and disease pressure (e.g., blight, maize smut, and armyworm).
 - Strong winds causing lodging (flattening) of tall crops like maize.
- **Areas of Risk:**
 - Terraced farms on steep slopes and hillsides.
 - Riverine and swampy areas.
 - Plantations with a history of pest and disease outbreaks.
 - Farms with poor drainage systems.
- **Opportunities:**

- Enhanced crop yields due to adequate soil moisture.
- Opportunity to plant a variety of crops, including high-yielding and early-maturing varieties.
- Increased vegetable production.
- Improved conditions for planting perennial crops and trees.
- **Advisories:**
 - Promote climate-smart agricultural practices like conservation agriculture.
 - Agriculture extension officers to advise farmers on terracing and contour farming to minimize soil erosion.
 - Agricultural extension officers to encourage the use of certified, disease-resistant, and early-maturing seeds.
 - Agricultural extension officers to educate farmers on integrated pest and disease management.
 - Agricultural extension officers to advise on proper drainage in farms to prevent waterlogging.
 - Agro-dealers are advised to stock adequate quantities of early maturing maize, millet and other seeds before onset of rains to ensure their early planting.
 - Farmers are advised to practice conservation agriculture and other climate smart technologies in relation to the forecasted rainfall.
 - Farmers are advised to diversify to other enterprises like ground nuts, sorghum, and cassava.

3. BANANAS

Possible Hazards and Areas of Risk

- Loss of Top soil/Fertility.
- Refilling of already dug banana holes.
- Burying of already planted seedlings.
- Poor transportation due to poor roads during rainy weather.

Opportunities:

- Making soil conservation structure.
- Preparing seedbed early before rains.

Advisories

- Banana hardening nursery owners to ensure adequate stock early.
- Farmers to prepare the seed bed early, stock enough supporters, Plant wind breakers around the orchard/seed bed and do mulching.
- Extension officers to sensitize farmers on climate smart banana technologies in relation to average rainfall, water conservation technologies and conservation

agriculture.

- The national cereal board to ensure enough stock of fertilizers before onset of rains.

4. LOCAL VEGETABLES

Possible Hazards and Areas of Risk

- Heavy rainfall.
- Soil erosion 3. Hailstones

Opportunities

- Value Addition i.e is drying using solar drier.
- Collective marketing.

Advisories:

- Practise Early Planting
- Stockists to Have Good Varieties in Time
- Advise Farmers to Use Certified Seeds and practice climate smart technologies
- Farmers to practice climate smart vegetable production technologies

5. FISHERIES SECTOR

• Possible Hazards:

- Flash floods sweeping away fish ponds.
- Contamination of pond water from runoff and siltation.
- Increased water flow disrupting small-scale fish breeding projects in rivers.

• Areas of Risk:

- Fish ponds in lowlands and near rivers.

• Opportunities:

- Replenishment of natural water bodies and rivers.
- Improved water quality for fish farming after the initial runoff.

• Advisories:

- Advise fish farmers to reinforce their pond walls and drainage systems.
- Encourage the construction of overflow channels to manage excess water.
- Advise against building fish ponds in direct flood paths.

6. DISASTER MANAGEMENT SECTOR:

• Possible Hazards:

- Landslides and mudslides on steep slopes.
- Flash floods in low-lying areas.

- Loss of life and property.
- Displacement of communities.
- Thunder and lightning strikes which are dangerous
- Disruption of essential services.
- **Areas of Risk:**
 - Villages built on or at the base of hillsides.
 - Residential areas near riverbanks.
 - Areas with a history of landslides.
- **Opportunities:**
 - Improved preparedness and response coordination.
 - Testing of early warning systems.
- **Advisories:**
 - Identify and map out all high-risk zones for landslides and floods.
 - Sensitize the community on early warning signs and evacuation procedures.
 - Establish and equip rescue teams.
 - Set up temporary shelters and relief supply centers.
 - Advise residents in high-risk zones to move to safer ground before the onset of heavy storms.
 - Avoid walking in open areas during rains.
 - Avoid being close to windows and doors while inside the house when it is raining

7. WATER AND SANITATION SECTOR

- **Possible Hazards:**
 - Contamination of surface and groundwater sources from runoff and floods.
 - Damage to water pipes and sanitation infrastructure (e.g., pit latrines collapsing).
 - Increased siltation in rivers and dams.
- **Areas of Risk:**
 - Unprotected shallow wells and community boreholes.
 - Areas with poor sanitation facilities.
 - Water intake points for urban areas.
- **Opportunities:**
 - Replenishment of water reservoirs, rivers, and boreholes.
 - Increased water availability for domestic use, agriculture, and industry.
 - Opportunity for large-scale water harvesting.
- **Advisories:**
 - Promote rooftop rainwater harvesting and storage.

- County residents are advised to boil or treat water before drinking.
- County Residents are encouraged the use of elevated pit latrines and well covers.
- County Residents are advised on desilting and maintenance of water pans and dams.

8. HEALTH SECTOR:

- **Possible Hazards:**

- Increase in waterborne diseases such as cholera, typhoid, and dysentery due to contaminated water sources.
- Vector-borne diseases like malaria due to increased mosquito breeding sites.
- Increased cases of respiratory illnesses (e.g., common cold, pneumonia) and skin diseases.
- Injuries and fatalities from flash floods, lightning, and falling trees.

- **Areas of Risk:**

- Informal settlements and low-income areas with poor sanitation.
- Villages near stagnant water bodies and flood-prone zones.
- Vulnerable populations including children, the elderly, and people with disabilities.

- **Opportunities:**

- Recharge of community water points and boreholes.

- **Advisories:**

- Launch a public health campaign on hygiene and sanitation.
- Residents are advised on drinking boiled or treated water.
- The government to distribute mosquito nets and educate communities on their proper use.
- Pre-position medical supplies and emergency teams in high-risk areas.
- Residents are advised against sheltering under trees or near open windows during thunderstorms.
- Public health personnel are advised to be on lookout for possible occurrences of malaria and water borne diseases and stock hospitals with necessary drugs.
- Ministry of health and public health officers should therefore carry out awareness campaigns to sensitize the county residents of such cases.

9. Transport and Safety Sector

- **Possible Hazards:**

- Mudslides and landslides on hilly terrain, blocking roads and causing accidents.
- Flooded roads and damaged bridges, making routes impassable.
- Poor visibility during heavy storms, increasing the risk of road accidents.
- Roads becoming slippery and dangerous.
- Damage to road infrastructure due to flash floods.

- **Areas of Risk:**

- Roads on slopes and hillsides (e.g., those connecting to Borabu, Nyansiongo).
- Bridges and causeways over rivers.
- Murram and unpaved roads.

- **Opportunities:**

- Reduced dust on roads, improving air quality.

- **Advisories:**

- Disseminate real-time information on road closures and flooded sections.
- Motorists are advised to exercise extreme caution, especially on slippery roads and during heavy downpours.
- County residents are advised against crossing flooded rivers and bridges.
- Road engineers are advised to inspect and reinforce critical road infrastructure.
- KeNHA KURA and KERRA should consider repainting and installing road signs including yellow lines and white markings on all tarmac roads

10. ENERGY SECTOR

- **Possible Hazards:**

- Power outages due to lightning strikes on transformers and power lines.
- Damage to electricity poles and lines from strong winds and falling trees.
- Risk of electrocution from fallen power lines.

- **Areas of Risk:**

- Areas with old or poorly maintained power infrastructure.
- Forestry areas and plantations where trees could fall on power lines.

- **Opportunities:**
 - Improved water levels for hydroelectric power generation (though Nyamira relies on the national grid, this has a national impact).
- **Advisories:**
 - The public are advised to stay away from fallen power lines and report them to the Kenya Power and Lighting Company (KPLC).
 - KPLC are Encouraged to trim trees near power lines and inspect infrastructure in advance.
 - Residents are advised to look for alternative power sources (e.g., generators, solar power) for essential services.

11. BUSINESS SECTOR

- **Possible Hazards:**
 - Disruption of supply chains due to impassable roads.
 - Damage to business premises from floods and strong winds.
 - Reduced customer traffic during heavy rainfall.
 - Spoilage of goods sensitive to moisture.
- **Areas of Risk:**
 - Businesses in flood-prone urban centers.
 - Agro-processing plants that rely on a steady supply of crops.
- **Opportunities:**
 - Increased demand for goods and services related to the rains (e.g., gumboots, umbrellas, tarpaulins, water tanks).
 - Boost in agricultural productivity, leading to more business for agro-dealers and food processors.
- **Advisories:**
 - Business owners are advised to secure their premises against strong winds and floods.
 - Diversification of suppliers encouraged to mitigate supply chain disruptions.
 - Business men & women are advise on maintaining a business continuity plan.

12. PEOPLE WITH DISABILITIES

- **Possible Hazards:**
 - Increased difficulty in movement, especially for those with mobility

challenges, due to muddy roads and flooded paths.

- Exclusion from disaster warnings and relief efforts if not specifically targeted.
- Damage to assistive devices (e.g., wheelchairs) from water and mud.
- **Areas of Risk:**
 - Residences in high-risk zones.
 - Public spaces and transport that lack accessibility features.
- **Opportunities:**
 - Increased awareness of their specific needs during an emergency.
- **Advisories:**
 - The government to ensure that early warning messages are accessible through various formats (e.g., SMS, radio, community meetings).
 - The government to prioritize the evacuation of people with disabilities from high-risk areas.
 - The government to establish a network of caregivers and volunteers to assist during emergencies.

13. FORESTRY SECTOR

- **Possible Hazards:**
 - Increased risk of soil erosion and landslides on deforested land.
 - Strong winds uprooting trees, posing a danger to people and property.
- **Areas of Risk:**
 - Newly planted forests on steep slopes.
 - Areas with illegal logging activities.
- **Opportunities:**
 - Enhanced tree and vegetation growth.
 - Successful afforestation and reforestation efforts.
 - Recharge of rivers and springs, which are crucial for the long-term health of forests.
- **Advisories:**
 - County residents are advised against planting trees in steep, rocky areas that are prone to landslides.
 - Resident communities are encouraged to plant indigenous trees that have strong root systems.
 - The governments should enforce anti-logging measures, especially on

riverbanks and hillsides.

- The residents are advised to be cautious of falling trees during rainstorms.

By

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