



# GEAVET TRAINING PROGRAMME FOR CSA

## LIVESTOCK SMART SKILLS AND CLIMATE-SMART POST-HARVEST PROCESSING:

# UGANDA

## UNIT 2.1 USING CLIMATE DATA FOR FARM DECISION-MAKING IN UGANDA

### ENGLISH VERSION

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Open Educational Resources



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## **PART I – LEARNING MATERIAL**

### **1. Introduction**

In recent years, Uganda has been experiencing the devastating effects of climate change, which, as the 2023 Global Hunger Index also highlights, has a direct and significant impact on food insecurity. Although Uganda is less affected by the prolonged drought affecting the Horn of Africa countries, in recent years the northern and eastern regions of the country have been experiencing unpredictable and uneven rainfall patterns. This has created several food security challenges in the region, as the population predominantly dependent on agriculture—finds itself with insufficient harvests to ensure adequate nutrition during the dry season. In this way, using climate data for farm and agriculture decision making means undertaking a series of actions to mitigate the impact of climate change: i.e. use and promote crops that require less water. For most of the year, Uganda enjoys a sunny climate, with temperatures rarely exceeding 29°C. The average temperature is around 26°C, with highs ranging from 18-35°C and lows ranging from 8-23°C depending on the region. Uganda's climate is ideal, ranging from the heat of the lowlands to the coolness of the highlands. The rainy season allows for two plantings and two harvests per year in much of the country, without the need for irrigation.



**Image 1. Ugandan farm- a dry banana plantation (UNEP, 2024)**

## 2. Why Climate Data Matters for Ugandan Farmers

In Uganda, where over 70% of the population relies on agriculture, climate isn't a secondary factor—it's the foundation of livelihoods and profitability (Met Office Uganda). The core aim of this module is to replace guesswork with informed, data-driven decisions, transforming subsistence farming into a resilient, commercial enterprise. See the following video on how changing weather patterns in Uganda affect food chain systems: [https://youtu.be/YcKxRCT\\_6kA?si=BE1iCE7wl6LZrBGQ](https://youtu.be/YcKxRCT_6kA?si=BE1iCE7wl6LZrBGQ)

Uganda's traditional climate model is characterized by bimodal rains, featuring two distinct wet seasons. However, this reliable pattern is rapidly changing. Farmers are now consistently facing:

- **Growing Unpredictability:** The start and end dates of the rainy seasons are becoming irregular, rendering planning based on traditional calendars ineffective.
- **Irregular Dry Spells:** Short but intense breaks in rainfall often occur during the wet seasons. These irregular dry spells are a major cause of crop failure, especially impacting germination.
- **Hotter Periods:** Rising average temperatures stress crops, reduce pasture growth, affect animal health, and increase the severity of pest outbreaks.

Climate unreliability affects every aspect of agricultural production in the following way:

- **Crop Production (Planting Risk):** If seeds are planted too early (a "false start"), a sudden dry spell kills seedlings, forcing costly and time-consuming replanting. Lack of accurate climate information reduces the success of germination and the crucial early growth phase.
- **Livestock and Pasture Growth:** Prolonged or erratic droughts reduce pasture growth, jeopardizing animal health and overall production. Veterinary service providers (vet providers) require data on temperature and humidity to predict and manage climate-sensitive diseases.
- **Pest and Disease Outbreaks:** Changes in temperature and moisture directly influence the life cycles of pests and disease vectors. Without data, farmers cannot adopt preventive measures, and timely treatments are often ineffective.

To sum up, climate information transforms the farmer from a passive victim of the weather into an active strategist of their business.

### 2.1. Advantages of Climate Data

For farmers, accessing and applying climate data translates into a direct competitive advantage:

- **Reduce Losses:** Using forecasts to define the Planting Trigger (Activity 1) prevents germination failures and seed waste, protecting the initial investment.
- **Plan Inputs:** Short-term forecasts allow for precise planning of fertilizer and pesticide application, avoiding spraying before imminent rain or in excessive wind (Activity 2), thus maximizing efficiency and reducing waste.
- **Protect Animals:** Data on heat and drought helps plan water sourcing and preventive vaccination, safeguarding animal health.
- **Avoid Risky Timing:** Seasonal outlooks (Activity 3) enable the selection of short-cycle crops or drought-resistant varieties, aligning the planting strategy with the predicted climate risk.



**Image 2. Ugandan Women's Role in Food Production (Dreamstime, 2025).**

### 3. What Does Climate Data Mean?

Before acting, a farmer must be able to translate complex weather reports into simple, actionable information. This section defines the essential terms and indicators used to make smart farming decisions. The first step is understanding the difference between weather and climate. Knowing this helps farmers choose the right data source for the right decision.

**Table 2. The difference between weather and climate**

<b>Term</b>	<b>What it Describes</b>	<b>Decision-Making Timeframe</b>
<b>Weather</b>	The condition of the atmosphere right now, or over a few days (e.g., "It will rain tomorrow," "Today's wind speed").	Short-Term (Operational): <i>Do I spray the crops today? When should I harvest?</i>
<b>Climate</b>	The average pattern of weather over many years (e.g., "The short rainy season usually runs from August to October," "This region is prone to drought. ").	Long-Term (Strategic): <i>Which crop variety should I plant this season? Where should I build a water reservoir?</i>

#### 3.1. Essential Climate Indicators for Farmers

Ugandan farmers don't need highly complex scientific models; they need to focus on a few basic indicators that directly affect their operations.

- **Rainfall Timing and Amounts:** Which means when the rain starts (onset) and stops (cessation), and how much total rain falls (accumulation). Knowing the reliable onset is critical to avoid wasting seeds on a false start. Knowing the amount helps estimate if supplementary watering (for livestock or vegetable gardens) will be needed.
- **Temperature Changes:** The daily maximum and minimum temperatures, and the overall seasonal trend (e.g., "The next three months will be warmer than average"). High temperatures stress crops and reduce pasture quality. High heat can also directly impact animal health and trigger the hatching or spread of pests and diseases.
- **Duration of Dry Spells:** Periods of consecutive days without rainfall during an expected rainy season. Even during the wet season, a dry spell of 7-10 days can kill young seedlings that haven't developed deep roots. Knowing the likelihood and duration of these spells informs planting depth and the choice of drought-tolerant varieties.
- **Seasonal Onset/Ending:** The forecast date range for the start and end of the major bimodal rainy seasons. This determines the entire planting window. Shifting the expected onset by even two weeks can significantly change the time needed for harvesting and storage.

- **Alerts for Extremes:** Specific warnings issued by the Uganda National Meteorological Authority (UNMA) for high-impact events like droughts, floods, and severe heat waves. Alerts trigger emergency risk management actions, such as moving livestock to higher ground (for floods) or securing emergency fodder and water (for droughts). These basic indicators, rainfall, temperature, duration of dry spells, and seasonal timing are powerful enough to change core agricultural practices across the farm, e.g.



Image 3. Woman Farmer using Drip Irrigation (Michele, 2020).

#### 4. Access to Reliable Climate Information in Uganda

For climate information to be useful, it must be trusted, accessible, and reliable. In Uganda, farmers rely on a mix of official, governmental, and local sources to build a complete picture of the climate outlook. Key trusted sources are:

##### Official and Institutional Channels

These sources provide scientifically validated data and are critical for strategic planning:

- **Uganda National Meteorological Authority (UNMA):** This is the ultimate official source for all national and regional weather and climate forecasts. UNMA information is disseminated through various channels, including:
  - Radio: Often the most accessible medium in rural areas for daily and weekly forecasts.
  - SMS & Mobile Platforms: Tailored, timely alerts sent directly to users' phones.
  - Community Announcements: Dissemination through local councils and official government channels.

- **Extension Workers & Veterinary Officers:** These professionals are trained by government agencies or NGOs to interpret and contextualize climate data for local farming conditions. They act as a vital link between science and the farm.
- **Local Agro-Advisory Teams:** Community-based groups that often receive official advisories and translate them into local languages and specific farming practices.

### Mobile and Digital Advisory Services

Technological tools are increasingly important for rapid, localized information:

- **Mobile/SMS/WhatsApp Advisory Services:** Several services commonly used in rural Uganda provide timely alerts, planting dates, and weather warnings directly to users' phones. These are highly effective for short-term operational decisions (Activity 2).
- **UNMA Website & Online Portals:** While requiring internet access, the official website provides detailed maps and long-range outlooks, crucial for training and strategic planning.

### Farmer-Managed Tools and Local Knowledge

Official data should always be complemented by direct observation and traditional knowledge:

- **Rain Gauges:** Simple, low-cost tools managed by the farmer to track local rainfall accumulation daily. This allows the farmer to verify if the official forecast matches the reality on their farm.
- **Weather Calendars & Local Observation Notes:** Keeping records of planting dates, rainfall, and yield for previous seasons helps identify local patterns and build historical context for climate decisions.

#### *Simple Check for Reliability*

Given the mix of sources, it's essential to evaluate the quality of the information received. Use this simple checklist before making any critical decision:

**Table 3. Climate Data Reliability Check**

Criterion	Question to Ask	Actionable Result
Official Source	Was the information issued by a recognized authority (UNMA, FAO, Ministry of Agriculture)?	Ensures the data is scientifically grounded and standardized.
Clarity	Is the forecast clear and specific (e.g., "70% chance of below-average rain")?	Vague warnings like "rain will be difficult" are not useful for decision-making.

Consistency	Does the information align with your local observations (e.g., your rain gauge) and with other trusted sources?	If the radio says rain is coming, but your local observation shows dry conditions, seek clarification.
Updated	When was the information released? Is it relevant for the current time (e.g., a short-term forecast is not useful for a seasonal outlook)?	Ensures the decision is based on the most current atmospheric conditions.

By cross-referencing information across these reliable sources, farmers can transform climate data into robust, risk-reducing strategies for their livelihoods.



**Image 4. African Farmer using a digital tool (Oluoch, 2022)**

## 5. How Do Farmers Use Climate Data for Daily and Seasonal Decisions?

Applying climate information transforms farming from a risky gamble into a planned process. By integrating short-term weather forecasts (for daily operations) and long-term climate outlooks (for strategic planning), farmers, youth, and extension workers can optimize resource use and dramatically reduce losses.

### 5.1. Crop Decisions: From Planting to Harvest

Climate data is the primary tool for managing the crop lifecycle, particularly in rain-fed systems like those in Uganda.

**Table 4. How Do Farmers Use Climate Data for Crop Decisions**

Climate Data Used	Actionable Decision	Goal

<b>Rainfall Onset Probability (Seasonal Outlook)</b>	Choosing Planting Dates: Instead of using a fixed calendar date, farmers use the probability forecast (e.g., "75% chance of steady rain starting in the third week of August") to set the <i>Planting Trigger</i> (Activity 1).	Avoid the "false start" phenomenon and maximize successful germination.
<b>Seasonal Rainfall Outlook (Below-Average Forecast)</b>	Selecting Varieties: When a long dry spell or below-average rainfall is forecast, farmers select early maturing or drought-tolerant varieties (Activity 3).	Ensure crops complete their growth cycle before the expected drought hits, guaranteeing at least a partial harvest.
<b>Short-Term Forecast (24-48 hours)</b>	Timing Fertilizer, Weeding, and Spraying: Farmers apply fertilizer just before a light, steady rainfall to ensure nutrients penetrate the soil without running off. They avoid spraying pesticides if heavy rain or high wind is forecast, maximizing efficacy and saving money (Activity 2).	Optimize input use, prevent chemical runoff, and reduce waste.
<b>Drought Warnings (Weekly to Monthly Forecasts)</b>	Small-Scale Irrigation or Moisture Conservation: When drought alerts appear, farmers implement simple moisture conservation techniques (e.g., mulching, tied ridges) or plan small-scale supplementary irrigation for high-value crops.	Preserve soil moisture and protect vulnerable crops during dry spells.

## 5.2. Livestock Decisions: Managing Pasture and Health

Climate data is equally vital for livestock management, linking weather patterns to pasture health and animal welfare.

**Table 5. How Do Farmers Use Climate Data for the Livestock**

<b>Climate Data Used</b>	<b>Actionable Decision</b>	<b>Goal</b>
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<b>Rainfall Patterns (Seasonal Outlook)</b>	Planning Grazing Rotations: Farmers plan the movement of their animals (grazing rotations) to ensure pastures recover during rest periods, maximizing forage availability throughout the season.	Prevent overgrazing and ensure sustainable pasture growth.
<b>Long Dry Spell Forecast (Seasonal Outlook)</b>	Preparing Fodder Stores: When a prolonged dry season is forecast, farmers secure and store fodder (hay, silage) early, before prices rise or supplies run out.	Ensure continuous nutrition and prevent severe loss of animal body condition during drought.
<b>Temperature and Drought Alerts (Short &amp; Medium Term)</b>	Water Supply Planning: Farmers check and repair water collection systems (e.g., dams, tanks) and organize transport for water for cattle, goats, poultry, and pigs, anticipating potential water stress.	Prevent dehydration and severe health issues related to water scarcity.
<b>High Heat Waves (Short-Term Forecast)</b>	Reducing Heat Stress: Farmers provide extra shade, improve ventilation in shelters, and adjust the timing of animal movement or intensive labour (e.g., moving animals only in the early morning or late evening).	Maintain animal welfare and productivity (e.g., milk yield).

### 5.3. Reducing Overall Farm Risks

By looking beyond the immediate field and livestock issues, climate data becomes a powerful tool for holistic risk management and business planning.

- **Avoiding Planting at Risky Moments:** By integrating the seasonal outlook with historical data, farmers identify and avoid planting during periods that have a statistically high risk of failure (e.g., the historical "January break" in some regions).
- **Planning Labour, Money, and Inputs:** The forecast helps synchronize cash flow and labour needs. For instance, knowing the onset date allows farmers to hire labour and purchase seeds/fertiliser *just in time*, reducing the risk of holding expensive stock or losing money due to planting delays.
- **Adjusting Production Plans Early:** If a severe drought or flood warning is issued three months in advance, the farmer has time to:

1. Shift from high-value, water-intensive crops to drought-resistant options.
2. Reduce the total area planted to minimize potential loss.
3. Secure micro-insurance or access credit based on the predicted risk.

## 6. Simple Tools to Track Climate Conditions

While official forecasts from UNMA (Uganda National Meteorological Authority) provide essential macro-level data, effective climate-smart farming requires ground-level verification. Farmers must use simple, low-cost tools to localize the information and track conditions directly on their farm. These tools require minimal investment and can be easily maintained, empowering farmers to become citizen scientists on their own land.

**Rain Gauge (or DIY Bottle Version):** Measures the exact amount of rainfall (in millimeters or inches) that has fallen over a specific period (e.g., the last 24 hours). Official forecasts give regional rainfall amounts, but local variations can be huge. The rain gauge provides the true accumulation on the farm. This data is critical for validating the start of the wet season and calculating the risk of a dry spell killing young crops. A simple, straight-sided bottle or can with a measuring ruler can be used as an effective DIY alternative.

**Simple thermometer:** Measures the daily maximum and minimum air temperature. Temperature is a major driver of animal health, pest cycles, and crop stress. High temperatures (above 30°C) can reduce milk yield in cattle and cause heat stress in poultry. Monitoring local temperature helps farmers plan timely relief actions like providing shade or increasing water supply.

**Weather/Season Calendar (Hand-Drawn or Printed):** It's a visual chart used to record the historical pattern of the seasons and plot the forecasted onset and cessation dates. Visualizing the data helps farmers compare the forecasted season (e.g., "Onset expected August 20") against the historical average (e.g., "Historically, onset is August 10"). This comparison is vital for strategic planning and adjusting the selection of crop varieties (Activity 3).

**Notebook for Observations:** A simple book used to record daily or weekly observations, including rainfall measurements, planting dates, pest sightings, and yield data. Memory is unreliable. Consistent record-keeping creates a valuable local history of the farm's climate performance. After three seasons, the farmer can predict their local micro-climate patterns better than any regional model alone.

**WhatsApp or SMS Groups for Advisory Messages:** A digital platform used to receive official, contextualized, and timely advisory messages from extension workers,

UNMA, or verified NGOs. This tool ensures that the farmer receives updated alerts (e.g., "Heavy rains expected in 48 hours") that are essential for making critical operational decisions like when to spray, irrigate, or secure fodder.

*NOTE:* The true value of these simple tools is not the tool itself, but the consistent recording they enable. By maintaining a simple notebook and using basic measuring tools, farmers gain the confidence and the data necessary to transform their planning and decision-making processes.



**Image 5.** Collaborative work on root crops or extraction (right); Water Management and Crop Planting/Care (left) (Germana, 2023)

## 7. Understanding Forecast Uncertainty

Climate forecasts are powerful tools, but they are not perfect. Weather and climate systems are complex, meaning all forecasts come with a degree of uncertainty. Understanding this uncertainty is essential for managing risk and avoiding expensive mistakes.

It is critical to remember Forecasts are probabilities, not promises or guarantees. A forecast tells you the likelihood of an event happening, based on the best scientific models available. It never tells you something *will* happen with 100% certainty.

To communicate risk effectively, forecasts use percentages (e.g., 60%, 80%). Farmers need to understand what these numbers mean in practical terms:

- **High Probability** (e.g., 80% chance of above-average rain): This is a strong indicator. It means that out of 10 times this forecast has been made, the event

(above-average rain) happened 8 times. The smart decision is to plan for the high-impact event (plant water-intensive crops, repair flood barriers).

- **Medium Probability** (e.g., 60% chance of rain): This means the event is *more likely* to happen than not, but there is still a significant chance (40%) it won't. The smart decision is to take cautious action (prepare the field but wait for the *Planting Trigger* to confirm).
- **Low Probability** (e.g., 30% chance of drought): While the risk is low, it is not zero. The smart decision is to monitor closely and have a backup plan (e.g., reserve emergency fodder).

*Note:* Since no single forecast is ever 100% certain, the safest decision-making strategy is to cross-check information from two or more trusted sources (refer to the "Trusted Sources" section).



**Image 6. Young farmer implements small-scale irrigation to manage dry conditions**  
(Luwanga, 2022)

## 8. Realities and Barriers in Uganda

Adopting climate-smart farming practices is not just about having the right data; it's about overcoming logistical, social, and educational challenges on the ground. For many farmers in Uganda, accessing and acting on climate data is limited by several persistent barriers. Understanding these challenges is crucial for extension workers and trainers, as it informs us how information must be delivered.

**Table 6. Key barriers in climate data use in Uganda**

Barrier	Description	Impact on Decision-Making
Poor or Unstable	In many remote or hilly areas, mobile network signal strength is	Farmers rely on delayed information (e.g., radio

Mobile Network	low or non-existent, making real-time SMS alerts and accessing online data impossible.	broadcasts) or miss urgent alerts (e.g., severe heat waves).
Misleading Informal Predictions	Communities often rely on traditional lore or "guess forecasts" from unqualified local sources, which may contradict official UNMA data.	This leads to confusion and a lack of trust in official scientific predictions, often resulting in poor timing decisions.
Limited Extension/Vet Coverage	Government and NGO extension workers and veterinary officers cannot reach every remote village consistently, leaving many farmers without a trained person to interpret complex forecasts.	Farmers lack the local support needed to contextualize and apply regional climate information to their specific farm.
Low Literacy	A significant portion of the farming population has limited reading skills, meaning complex text-based advisories (SMS, printed material) are inaccessible or misinterpreted.	There is a critical need for simple messages, visual aids, and verbal communication to ensure the information is understood and used correctly.

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## PART 2 – CURRICULUM

### Learning Objectives:

KNOWLEDGE	SKILLS	ATTITUDES
<p><i>Students will know:</i></p> <ul style="list-style-type: none"> <li>• To understand basic climate data types (rainfall, temperature, season onset/ending)</li> <li>• Where to access reliable climate information in Uganda (UNMA, extension services, SMS).</li> <li>• How climate patterns influence planting, grazing, animal health, and input timing.</li> </ul>	<p><i>Students will be able to:</i></p> <ul style="list-style-type: none"> <li>• Interpret simple forecasts and rainfall/temperature information to plan farm tasks.</li> <li>• Use basic tools (rain gauge, weather calendar) to record local conditions.</li> <li>• Adjust crop and livestock management based on expected weather conditions.</li> </ul>	<p><i>Students will develop the following mindset:</i></p> <ul style="list-style-type: none"> <li>• Willingness to check climate information regularly instead of relying on guesswork.</li> <li>• Openness to change traditional timing when data shows risk (e.g., delayed rains).</li> <li>• Sense of responsibility to share climate information within farmer groups/family to reduce risks.</li> </ul>
<p><b>TRANSVERSAL SKILLS INTEGRATED:</b></p> <ul style="list-style-type: none"> <li>• <b>Critical Thinking:</b> Interpreting climate information correctly, comparing different sources, and avoiding blind traditional timing.</li> <li>• <b>Problem Solving:</b> Using forecasts to decide what to change: planting earlier/later, providing shade for animals, saving fodder before dry spells.</li> <li>• <b>Adaptability:</b> Willingness to modify routines and adjust decisions when forecasts change (common issue in Uganda).</li> <li>• <b>Communication:</b> Sharing weather information with neighbors, youth groups, farmer groups, and coordinating actions (e.g., pest alerts, planting days).</li> </ul>		
<p><b>DIGITAL SKILLS INTEGRATED:</b></p>		

- **Digital Literacy:** Being able to use a phone, read a weather message, open a simple app or SMS advisory, and understand what it means for the farm.
- **Mobile-Based Advisory Tools:** Using Uganda’s common mobile platforms (SMS from UNMA, WhatsApp groups, basic agro-advisory apps) to access weather forecasts and seasonal updates.
- **Data Management:** Recording and keeping simple climate observations (rainfall, temperature, dry spells) using basic digital notes or simple farm apps.
- **ICT for Agriculture (ICT4Ag):** Using digital communication tools (SMS, WhatsApp, voice notes) to receive veterinary alerts, crop advisories, and local climate warnings.

**GREEN SKILLS INTEGRATED:**

- **Climate Resilience:** Understanding how rainfall variability, dry spells, and temperature changes affect farming, and adjusting practices accordingly.
- **Water Resource Management:** Planning water use, small-scale irrigation, and livestock watering systems based on seasonal forecasts and drought warnings.
- **Sustainable Land Management:** Making decisions on planting dates, soil cover, mulching, and erosion prevention based on expected rainfall or extreme weather.
- **Climate Risk Assessment:** Using forecasts and local observations to judge seasonal risks (later rains, floods, heat stress) and decide how to reduce damage.

**Implementation plan of pedagogical activities - Scheme of work**

Duration: 3 hours				
Target: Young farmers, TVET technicians, and female entrepreneurs in the agricultural sector in Uganda				
No. of Activity	Duration	Training Methods / Activity	What the trainers do	What the participants do
1.	50–60 min	Interactive explanation + guided demonstration + farmer discussion.	<ul style="list-style-type: none"> <li>● Explain each type of climate data slowly and in everyday examples.</li> <li>● Demonstrate reading a</li> </ul>	<ul style="list-style-type: none"> <li>● Interpret example weather messages.</li> <li>● Identify rainfall warnings or temperature shifts.</li> </ul>

			<p>UNMA-style forecast from SMS/WhatsApp.</p> <ul style="list-style-type: none"> <li>• Show how a simple rain gauge works and why it matters.</li> <li>• Ask direct questions to test understanding and correct errors.</li> </ul>	<ul style="list-style-type: none"> <li>• Share examples from their farms.</li> <li>• Ask questions when unclear.</li> </ul>
2.	50–60 min	Case-study walk-through + small-group problem solving.	<ul style="list-style-type: none"> <li>• Present 2 short realistic cases (crop and livestock).</li> <li>• Guide groups to use climate data in decisions (timing, grazing, fodder).</li> <li>• Ask them to justify changes using evidence, not habit.</li> <li>• Push for practical thinking, avoiding idealised answers.</li> </ul>	<ul style="list-style-type: none"> <li>• Work in groups to analyse sample forecast.</li> <li>• Identify risks and propose adjustments.</li> <li>• Present decisions briefly to the class.</li> <li>• Explain why they chose their strategy.</li> </ul>

3.	45–60 min	Hands-on planning + coaching + peer review.	<ul style="list-style-type: none"> <li>● Explain the worksheet step by step.</li> <li>● Coach each participant to make a <i>realistic</i>, farm-ready plan.</li> <li>● Correct impractical or overly generic responses.</li> <li>● Facilitate a brief peer-review exchange.</li> </ul>	<ul style="list-style-type: none"> <li>● Fill out their own action plan.</li> <li>● Identify one realistic climate-based change for their farm.</li> <li>● Review a peer's plan and refine their own.</li> <li>● Ask targeted questions about feasibility.</li> </ul>
<p><b>Materials (What trainers need to have prepared):</b></p> <ul style="list-style-type: none"> <li>● Printed weather forecasts and case-study sheets</li> <li>● Phones with sample SMS/WhatsApp climate alerts</li> <li>● Rain Gauge (or simple DIY bottle version)</li> <li>● Climate Action Plan worksheets (one page)</li> <li>● Flipchart + markers</li> <li>● Pens/pencils</li> </ul>				
<p><b>Other notes:</b></p>				

## PART 3 – ACTIVITY GUIDE

### DESCRIPTION OF THE ACTIVITIES

#### 1. Understanding Climate Data (Mini-Lab)

This activity introduces participants to the basic climate information they receive through SMS or WhatsApp. They learn how to read a simple forecast, understand what it means in practice, and see how a basic rain gauge helps them track rainfall on their farm.

**1. Aim of the Activity:** To help participants correctly read, interpret, and use simple climate information for daily farm decisions.

**2. Duration:** 50–60 minutes

### **3. Materials Required:**

- Phone with sample SMS/WhatsApp forecasts
- Printed weather message examples
- Simple rain gauge (or DIY bottle gauge)
- Flipchart + markers
- Pens/pencils

### **4. Step-by-Step Instruction**

- Show a basic weather SMS/WhatsApp message and highlight key parts (rain, temperature, dry spells).
- Explain how to interpret the message and ask participants what it might mean for crops and livestock.
- Demonstrate a rain gauge and explain its use in tracking rainfall.
- Give participants printed forecasts to interpret individually or in pairs.
- Ask a few participants to share what they understood and correct any errors.
- Close with one clear point: check weather information before making a farming decision.

## **2. Turning Climate Data into Decisions**

This activity uses simple case studies to show how climate information influences choices on planting, grazing, water use, and feed management. Participants work in groups to make decisions based on a seasonal forecast.

**1. Aim of the Activity:** To train participants to turn climate forecasts into practical, farm-ready decisions.

**2. Duration:** 50–60 minutes

### **3. Materials Required:**

- Printed crop and livestock case studies
- Printed seasonal forecast scenarios
- Group worksheets (risks and decisions)
- Flipchart paper
- Markers

### **4. Step-by-Step Instruction**

- Explain that each group will analyze a forecast and make decisions for a real-life case (crop or livestock).
- Distribute case studies and forecast sheets.
- Groups identify the key risks (e.g., late rains, heat stress).

- Groups decide what changes to make: planting timing, fodder preparation, grazing plan, water plan.
- Trainers walk around, pushing groups to justify decisions with the forecast, not habits.
- Each group presents their decisions briefly (2 minutes).
- Trainer summarizes the most realistic and well-justified choices.

**References:**

Scaling Climate-Smart Agriculture in Uganda CRAFTProject:  
<https://youtu.be/syTVi4iOX8Q?si=g8xbAGK9DI0u4q29>

**3. Climate Action Plan (Hands-On Worksheet + Peer Review)**

Participants create a simple one-page Climate Action Plan using the forecast information provided. They write specific adjustments for their own farm and then refine their plan through peer feedback.

**1. Aim of the Activity:** To help each participant produce a realistic, climate-informed plan they can apply in the next season.

**2. Duration:** 45–60 minutes

**3. Materials Required:**

- One-page Climate Action Plan worksheet
- Pens/pencils
- Sample forecast
- Flipchart for examples

**4. Step-by-Step Instruction**

- Introduce the sections of the worksheet (forecast, risks, adjustments, inputs, monitoring).
- Participants complete the plan for their own farm using the sample forecast.
- Trainers circulate, giving clear, corrective feedback.
- Participants exchange worksheets with peers and give each other constructive feedback.
- Participants refine their plan and prepare a final version.
- The trainer closes by reminding them to update the plan each season.

**References**

See BUILD Uganda: Increasing Climate Smart Agriculture Production

For more information <https://www.youtube.com/watch?v=HxhEZYxjTvQ&t=4s>