**Extended Video Script for EcoHarvest Presentation**

**[Opening Scene]**

* **Visual**: Show images of farmers struggling with drought, pests, and labor issues. Transition to hopeful visuals of a flourishing farm with the EcoHarvest system in use.

**Voiceover (Yan Naing - Leader):**  
*"Farming is becoming more difficult due to challenges like water shortages, pests, and unpredictable weather. Women farmers face additional barriers, including limited access to resources. Our team, EcoHarvest, has developed a smart farming system to solve these problems for small-scale farmers. My name is Yan Naing, and I am the team leader. Let us take you on a journey to discover how EcoHarvest can transform farming."*

**[Problem Statement]**

* **Visual**: Data charts showing rising temperatures, increasing droughts, and pest infestations. Include a clip of a dry field and damaged crops.

**Voiceover (Yan Naing):**  
\*"Small-scale farmers are the backbone of agriculture worldwide, but they are also the most vulnerable to climate change. Droughts reduce water availability, pests destroy crops, and high costs make advanced technologies inaccessible. These issues force farmers into a cycle of low yields and poverty.

EcoHarvest is our answer to these challenges. It combines affordable mechatronics, solar power, and digital tools into one system that helps farmers manage their crops more efficiently. With EcoHarvest, even a single mother can grow food for her family and community without needing extensive resources or labor."\*

**[Solution Overview]**

* **Visual**: A 3D animation of the EcoHarvest farm layout, highlighting key features like solar panels, the retractable roof, and sensors.

**Voiceover (Yan Naing):**  
\*"EcoHarvest is an innovative and sustainable farming system that includes:

1. A retractable roof to protect crops from extreme weather.
2. Sensors to monitor soil moisture, temperature, and pests.
3. A water tank that collects rainwater and filtered household water for irrigation.
4. Solar panels that power the entire system.
5. A user-friendly website where farmers can monitor and control their farm remotely.

This smart farm design ensures higher productivity, efficient water use, and protection from pests and harsh weather."\*

**[Mechatronics Demonstration]**

* **Visual**: Show close-ups of the soil moisture sensor, temperature sensor, and pest deterrent system. Include a demo of the retractable roof in action.

**Voiceover (Yan Naing):**  
\*"Let me explain how the mechatronics part of EcoHarvest works.

* The soil moisture sensor detects if the soil is dry. When it is, the system automatically activates the water pump to irrigate the crops.
* The temperature sensor tracks the weather. If it’s too hot or raining, the retractable roof closes to protect the crops.
* Our pest deterrent system uses PIR sensors to detect pests and activates light and sound to scare them away.

All these features work together to reduce labor and make farming easier, especially for farmers with limited resources."\*

**[3D Design Presentation]**

* **Visual**: A detailed walkthrough of the 3D farm design, with arrows and labels pointing out key components like the tank, farm layout, and shading system.

**Voiceover (Nan - 3D Designer):**  
*"I’m Nan, and I designed the 3D model for EcoHarvest. The farm is 50x50 feet, with a 10x10-foot water tank that stores rainwater and filtered household water. The retractable roof provides shade and protection for crops, adjusting automatically based on weather conditions. Solar panels power the entire system, making it self-sufficient and environmentally friendly. This design is practical and affordable, tailored for small farmers."*

**[Web Application Features]**

* **Visual**: Show screen recordings of the website’s dashboard with animations of live data updating, graphs, and navigation through different sections.

**Voiceover (Phyu - Web Developer):**  
\*"Hi, I’m Phyu, one of the web developers for EcoHarvest. Our website is designed to be simple and easy to use, even for people who are not familiar with technology. The dashboard is the heart of the website. Farmers can see real-time data from their farm, including:

* Soil moisture levels,
* Temperature readings,
* Pest activity, and
* The retractable roof’s current status.

This data helps farmers make better decisions about watering, pest control, and crop protection."\*

**Voiceover (Shwe - Web Developer):**  
\*"I’m Shwe, and I worked with Phyu on the website. We didn’t stop at live data. Our app also includes weather forecasts for today and the next five days. Farmers can plan ahead, whether it’s for watering, harvesting, or preparing for storms.

We also added a ‘Knowledge Hub.’ This section provides tips on dealing with common pests and improving soil health. It’s like having a farming expert right at your fingertips."\*

**Voiceover (Phyu):**  
*"Another feature is the ‘Common Questions’ page. Farmers can find answers to frequently asked questions, such as how to maintain the sensors or troubleshoot the system. These features make the app a complete farming assistant."*

**[Research and Community Impact]**

* **Visual**: Charts showing research data on water scarcity, pest challenges, and small-scale farming hardships. Add simulated testimonials or interviews with farmers.

**Voiceover (Ngwe - Data Specialist):**  
\*"Hi, I’m Ngwe, and I focused on research for this project. We studied the challenges faced by small-scale farmers, especially in areas impacted by climate change. Water scarcity is one of the biggest problems, affecting millions of farmers. Pests also destroy up to 40% of crops globally each year.

EcoHarvest solves these problems with low-cost technology that any farmer can use. By saving water, deterring pests, and automating tasks, our system improves crop yields and reduces labor. This is especially helpful for women farmers, who often face more difficulties accessing resources and labor."\*

**[Conclusion and Vision]**

* **Visual**: Team photo, EcoHarvest logo, and a simulation of the system in action. End with the slogan: *“EcoHarvest: Farming Made Simple.”*

**Voiceover (Yan Naing - Leader):**  
\*"EcoHarvest is more than just a smart farm—it’s a lifeline for small-scale farmers. Our goal is to make farming sustainable, affordable, and accessible, especially for those most affected by climate change.

We believe this system can transform the lives of farmers, help communities thrive, and contribute to a more sustainable future. Join us in making this vision a reality. Thank you."\*