Lampiran 3 Foto Tempat Penelitian

Lampiran 4 Source Code :

```
#define BLYNK_TEMPLATE_ID "TMPL6KLeLoSFz"
#define BLYNK_TEMPLATE_NAME "Smart Garden"
#define BLYNK_AUTH_TOKEN "vSnjEZQVmzSOMMpe6yNevl-
c3HalUIa3"


#include <DallasTemperature.h>
#include <OneWire.h>
#include <DHT.h>
#include <LiquidCrystal_I2C.h>
#include <Blynk.h>
#include <BlynkSimpleEsp8266.h>
#include <ESP8266WiFi.h>


#define BLYNK_PRINT Serial


// Pin Definitions
#define ONE_WIRE_BUS D5
#define DHTPIN D3
#define DHTTYPE DHT11
#define PUMP_PIN D6
#define SOIL_MOISTURE_PIN A0
#define LCD_ADDR 0x27
// Soil Moisture Calibration Values
const int AirValue = 620;
const int WaterValue = 310;
// Set Points
const int SP_LOW = 40;
const int SP_HIGH = 60;
```

```
DHT dht(DHTPIN, DHTTYPE);
OneWire oneWire(ONE_WIRE_BUS);
DallasTemperature sensors(&oneWire);
LiquidCrystal_I2C lcd(0X27, 16, 2);

char auth[] = "vSnjEZQVmzSOMMpe6yNevl-c3HalUIa3";
char ssid[] = "Redmi Note 11";
char pass[] = "12345678";

int soilMoistureValue = 0;
int soilmoist = 0;
int humi, temp,fp,sistem;
int buttonState ;

BLYNK_WRITE(V4){
  buttonState = param.asInt();
  sistem = (buttonState == HIGH) ? 1 : 0;
  fp = 0;
}

BLYNK_WRITE(V5){
  buttonState = param.asInt();
  if(sistem == 0){
    digitalWrite(PUMP_PIN, (buttonState == HIGH) ? LOW :
HIGH);
  }
}
```

```
void setup(void) {
  Serial.begin(9600);
  sensors.begin();
  dht.begin();
  pinMode(PUMP_PIN, OUTPUT);
  digitalWrite(PUMP_PIN, LOW);
  lcd.begin(16, 2);
  lcd.init();
  lcd.backlight();
  lcd.clear();
  lcd.print(" Smart Garden ");
  lcd.setCursor(0, 1);
  lcd.print(" NodeMCU V3 ");
  delay(1500);
  Blynk.begin(auth, ssid, pass);
  lcd.clear();
  lcd.print("Mst= %, T=    C");
  lcd.setCursor(0, 1);
  lcd.print("Hum= %, P= OFF");
}
void loop(void) {
  Blynk.run();
  sensors.requestTemperatures();
  temp = sensors.getTempCByIndex(0);
  Serial.print("Temp : ");
  Serial.println(temp);
  lcd.setCursor(12, 0);
  lcd.print(temp);
```

```
soilMoistureValue = analogRead(SOIL_MOISTURE_PIN);
  soilmoist = map(soilMoistureValue, AirValue,
WaterValue, 0, 100);
  soilmoist = constrain(soilmoist, 0, 100);
  Serial.print("Soil Moisture : ");
  Serial.print(soilmoist);
  Serial.println("%");
  lcd.setCursor(4, 0);
  lcd.print(soilmoist);
  lcd.print(" ");

  humi = dht.readHumidity();
  if (isnan(humi)) {
    Serial.println("DHT11 tidak terbaca... !");
    return;
  } else {
    Serial.print("Humi: ");
    Serial.println(humi);
    lcd.setCursor(4, 1);
    lcd.print(humi);
  }
if (sistem == 1) {
    if ((soilmoist < SP_LOW) && (fp == 0)) {
      digitalWrite(PUMP_PIN, LOW);
      lcd.setCursor(13, 1);
      lcd.print("ON ");
      fp = 1;
```

```
} else if ((soilmoist > SP_HIGH) && (fp == 1)) {
      digitalWrite(PUMP_PIN, HIGH);
      lcd.setCursor(13, 1);
      lcd.print("OFF");
      fp = 0;
    }
  }

  Blynk.virtualWrite(V1, temp);
  Blynk.virtualWrite(V2, soilmoist);
  Blynk.virtualWrite(V3, humi);

  Serial.print("Sistem= ");
  Serial.println(sistem);
  Serial.print("fp= ");
  Serial.println(fp);

  delay(1500);
}
```