

## *Crop water requirement mobile application*

<https://play.google.com/store/apps/details?id=com.CropWaterReq.cropwaterreq>

The Crop Water Requirement Mobile Application is an innovative and user-friendly tool designed to revolutionize agricultural water management and promote sustainable farming practices. The application aims to assist farmers and agricultural stakeholders in optimizing irrigation practices by calculating precise crop water requirements based on various factors such as crop type, climate, evapotranspiration value, type of irrigation, irrigation interval and growth stage. This application is divided in three part first one is water requirement for field crop, second is water requirement for fruit crop and third is water requirement for vegetable crop.

This mobile application have a programme, which start running when user put their requirements. At the last programme return to value of water required for crop.

This application typically includes the following parameters to estimate the water needs of crops, Crop Selection, Crop Growth Stage, Reference Evapotranspiration (ET<sub>o</sub>), Crop Coefficients (K<sub>c</sub>), Irrigation System Efficiency, Crop Water Requirement Programme, Data Visualization.

A Crop Water Requirement mobile application provides valuable information and tools to help users estimate the water needs of different crops. The application can offer several types of functionalities, depending on its design and features.

This mobile application uses different technologies like HTML, CSS, CSV file for Dataset and Power BI, DAX language visualization tool, WordPress for host. This app can be used by Android user.

Crop water requirement mobile application take input from user who have many field to select like district, Month, Day, Select fruit crop, Select Irrigation , No of days Next Irrigation.The programme is written in DAX language. After that programme return the value of water requirement. The programme works like,

Creating four variable for

var1=irrigation, var2=cropv, var3= Daily\_Up, var4=irr\_method

return with programme

`RETURN (var1 * var3 * var4/ var2 / var2 ) /10.`

# Home page of Application

## Jawahar Crop Water Requirement Application



Water Requirement for Field Crop



Water Requirement for Fruit Crop



Water Requirement for Vegetable Crop

Select District , month and Select Date then select filed crop , stages , irrigation type and no of days next irrigation after that programmer give water requirement value

## Water Requirement for Field Crop

The screenshot shows a web application interface for calculating water requirements. It features several input sections:

- Select Districts:** A list of districts including Agar Malwa, Alirajpur, Anuppur, Ashoknagar, Balaghat, **Barwani** (selected), Betul, Bhind, Bhopal, and Burhanpur.
- Select Month:** A grid of months from April to November, with **December** selected.
- Select Date:** A calendar grid showing days from 1 to 21, with **9** selected.
- Map:** A map of Madhya Pradesh with the **Barwani** district highlighted in orange.
- Select field\_Crop:** Radio buttons for Chickpea (selected), Cotton, Groundnut, Lentil, and Maize.
- Select stage:** Radio buttons for Development\_stage, Initial\_stage, **Late\_Stage** (selected), and Mid\_stage.
- select irrigation:** Radio buttons for border trip, **check basin** (selected), flood, sprinkler, and supervised pipe irri.
- No. of days next\_irrigation:** A dropdown menu with the value **26.00**.
- Home:** A green button at the bottom center.
- Water Requirement in cm:** A large blue box displaying the final result: **12.24**.

Select District, Month and Date after have to select fruit crop, irrigation type and irrigation it gives water requirement value.

### Water Requirement for Fruit Crop

#### Select Districts

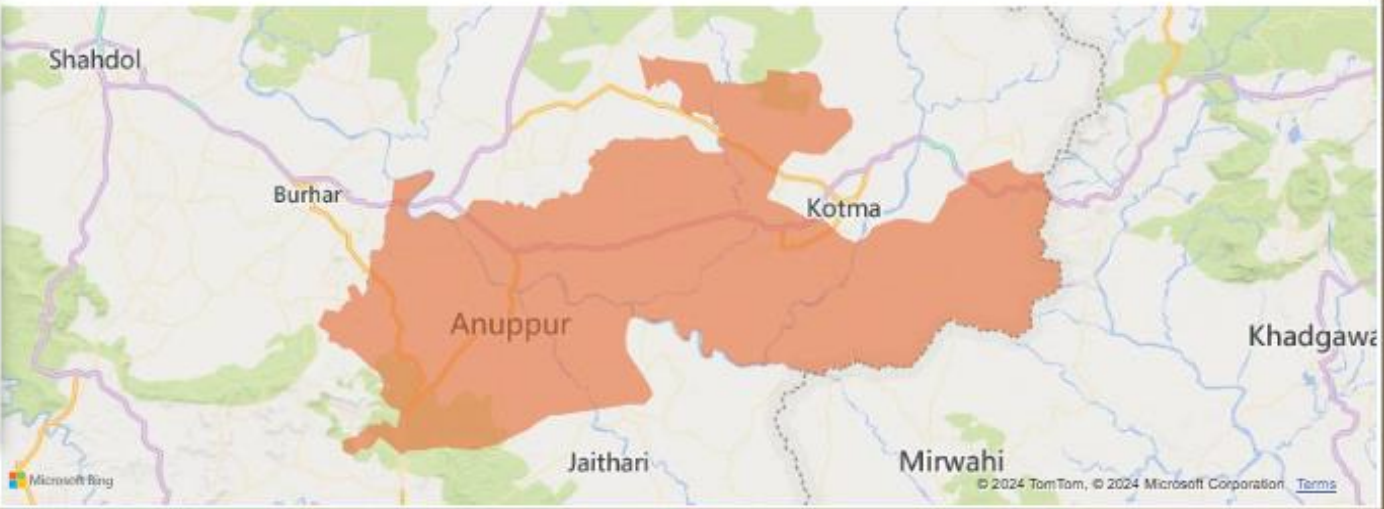
- Agar Malwa
- Alirajpur
- Anuppur**
- Ashoknagar
- Balaghat
- Barwani
- Betul
- Bhind
- Bhopal
- Burhanpur

#### Select Month

April	July
<b>August</b>	June
December	March
February	May
January	November

#### Select Date

1	8	15
<b>2</b>	9	16
3	10	17
4	11	18
5	12	19
6	13	20
7	14	21



#### Select Fruit\_Crop

- Aonla
- Citrus
- Guawa
- Mango
- Papaya

#### select irregation

- border trip
- check basin
- flood
- sprinkler
- supervised pipe irrigation

#### No. of days next\_irregation

6.00

Home

#### Water Requirement in cm

# 3.52

Select Districts, month and day then select vegetable crop, select stage, irrigation and days next irrigation it give water requirement value

### Water Requirement for Vegetable Crop

#### Select Districts

- Agar Malwa
- Alirajpur**
- Anuppur
- Ashoknagar
- Balaghat
- Barwani
- Betul
- Bhind
- Bhopal
- Burhanpur

#### Select Month

April	July
August	June
<b>December</b>	March
February	May
January	November

#### Select Date

1	8	15
2	9	16
3	<b>10</b>	17
4	11	18
5	12	19
6	13	20
7	14	21

Map showing Alirajpur district highlighted in orange. Surrounding areas include Katthiwada, Jobat, Bagh, Gand, Kukshi, Dahi, and Sondwa.

#### Select Vegetable\_Crop

- Brinjal
- Cabbage
- Cauliflower
- Chilly
- ...

#### Select stage

- Development\_stage
- Initial\_stage
- Late\_Stage
- Mid\_stage

#### select irregation

- border trip
- check basin
- flood
- sprinkler
- supervised\_pine\_irriga

#### No. of days next\_irregation

3.00

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### Water Requirement in cm

# 2.08