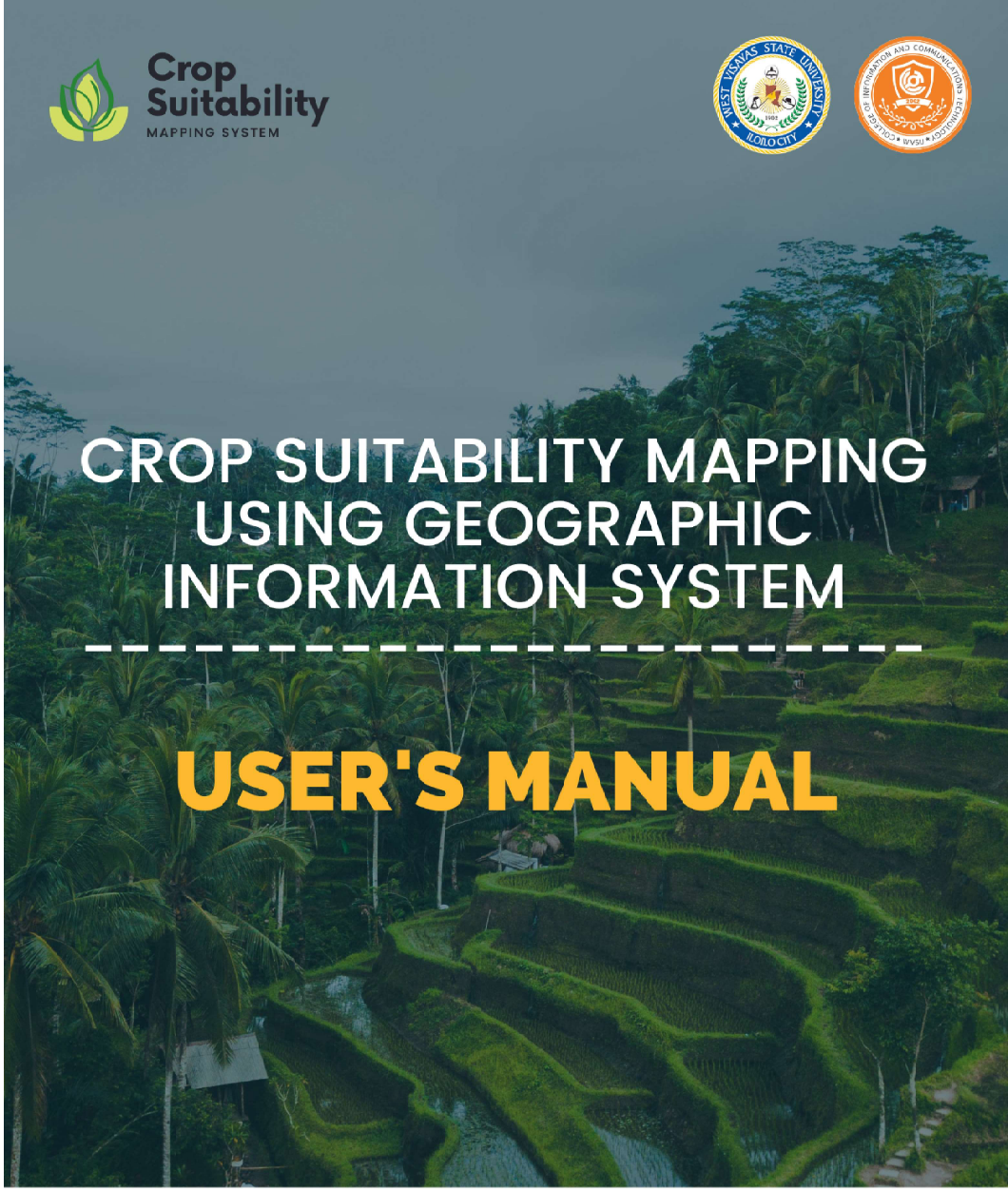
Crop Suitability
MAPPING SYSTEM



CROP SUITABILITY MAPPING USING GEOGRAPHIC INFORMATION SYSTEM

USER'S MANUAL

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Q4. Do I need internet connection to access the system?
Yes. The system can only be accessed through the web. This was made so that once the system will be deployed in the intended offices for permanent use, the system can be accessible anywhere on devices without high specifications.

Q5. Who are intended users of the system?
Mainly, the system was built for public use of agricultural sectors in the Province of Iloilo. However, anybody related and interested in low cost precision farming can also access the system.

Q6. Can the system be accessible by anybody?
Yes. The system is available online.

Q7. What data is being gathered by the system?
For admin enrollment, personal information of the municipal administrators are gathered by the provincial administrator to ensure the reliability of the person in charge for every municipality. Name, address, contact details, date of birth are being gathered, and the rest are agro-geologic data of the location to where the municipal administrator is assigned. The municipal admin is also required to daily supplement agro-climatic data of their location. For users, the system does not gather any personal information.

Q8. What is being forecasted by the system?
Agro-climatic data of a specific location at a given time of the year is the only data that are being forecasted in the system. The system can only forecast a maximum of three (3) years.

CROP SUITABILITY MAPPING USING GEOGRAPHIC INFORMATION

SYSTEM

An Undergraduate Thesis

Presented to the Faculty of the

College of Information and Communications Technology

West Visayas State University

Luna St., La Paz, Iloilo City

In Partial Fulfillment

of the Requirements for the Degree

Bachelor of Science in Information Systems

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June 2022

Troubleshooting for Fixing Possible Bugs

In case of problem occurrence try the following:

1. Refresh link or restart web browser.
2. Check connection to your network provider such as cabling and signal.
3. If all of the above is not solving issues, restart your device.
4. Contact the development team for further assistance for troubleshooting.

FAQ (Frequently Asked Questions)

Q1. What is a Crop Suitability Mapping System?

Crop Suitability Mapping System is a website that helps agricultural sectors such as farmers to improve farming practices by recommending crops based on the crops requirements for growth. This system is a low cost approach to precision agriculture that is driven by data.

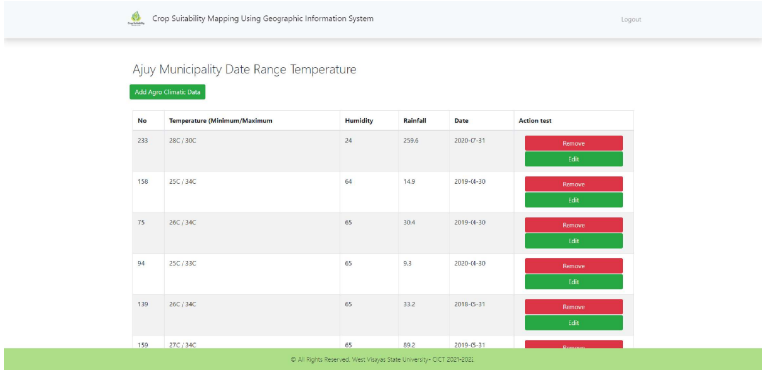
Q2. How does the Logic Scoring Preference help crop suitability?

The LSP algorithm originated from fuzzy reasoning. Once a crop's requirements fit in the location's agro-climatic and agro-geologic data ranges within a time period, the system then recommends the crop suitable for planting and/or the location suitable for the crop to be planted.

Q3. How can a person be an administrator?

There are two types of administrator, provincial and municipal administrator. There can only be one provincial administrator who can handle the system in this way the integrity of the data will not be at risk. The provincial administrator can enroll as many municipal administrators but there must be only one municipal administrator in every municipality.

3. After clicking the **Login** button, the municipal admin will be redirected to the list of agro-climatic data. The admin can also edit the data by clicking the **Edit and Remove** button.



4. **Clicking** the **add Agro-Climatic Data** will go to the form where admin can input data such as date, minimum and maximum temperature, humidity, and rainfall. The data will be saved in the database after **clicking** the **save** button.

DISCLAIMER

This software project and its corresponding documentation titled "Crop Suitability Mapping Using Geographic Information System (GIS)" is submitted to the College of Information and Communications Technology, West Visayas State University, in partial fulfillment of the requirements for the degree, Bachelor of Science in Information Systems. It is the product of our own work, except where indicated text.

We hereby grant the College of Information and Communications Technology permission to freely use, publish in local or international journal/conferences, reproduce, or distribute publicly the paper and electronic copies of this software project and its corresponding documentation in whole or in part, provided that we are acknowledged.

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June 2022

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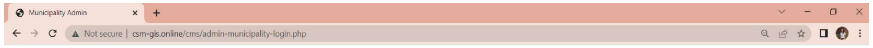
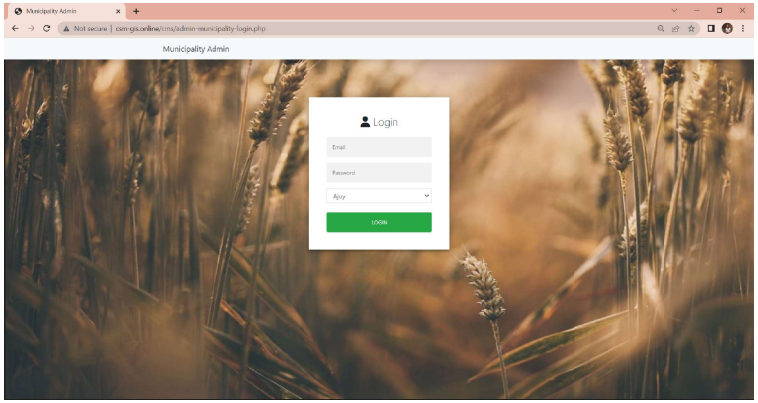
Accessing the Municipality Admin Page

1. In order for the municipal admin to input their location's agro-climatic data, **go** to the browser and input the link **http://csm-gis.online/cms/admin-municipality-login.php**

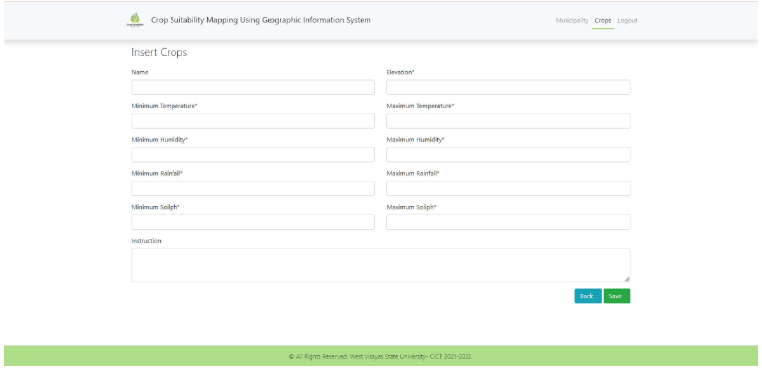


2. The admin will be redirected to the login page of the system.



The municipal admin will choose municipality and **input** the following credentials:
username: ajuy@gmail.com (Municipality+gmail.com),
password: d3f4ult

7. **Clicking** the **Add new Crop** will go to the **form** where the provincial admin can **input** data of the crop's requirement to grow. The data will be saved in the database after **clicking** the **save** button.



GUIDE FOR DEPLOYING AND USING THE SYSTEM'S MAIN FUNCTIONS

Getting Started

Introduction

The world has reached an era where most of the activities depend on the use of technology. Despite this technological advancement, farmers today still lack capability to improve and strengthen farming activities and routines and rather prefer to go back to their traditional ways of farming. The main focus of this study is to provide crop suitability mapping using geographic information system to those who need it, especially in the field of agriculture. The system collects and stores historical data that can be used for crop management and for monitoring changes in the agricultural areas in terms of the predetermined attributes of crops, soil, and weather. It was developed mainly to help farmers and agricultural sectors to enhance farming strategies of the agricultural sectors in the country by solely relying on data.

This document provides a software manual for the user on how to use the system and what software is needed to run the system.

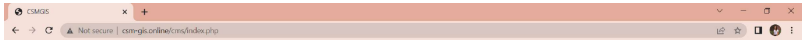
System Requirements

The system's admin page as well as the user page can run in Windows 7 and up, processors ranging from Intel Celeron and up using desktop and/or laptop.

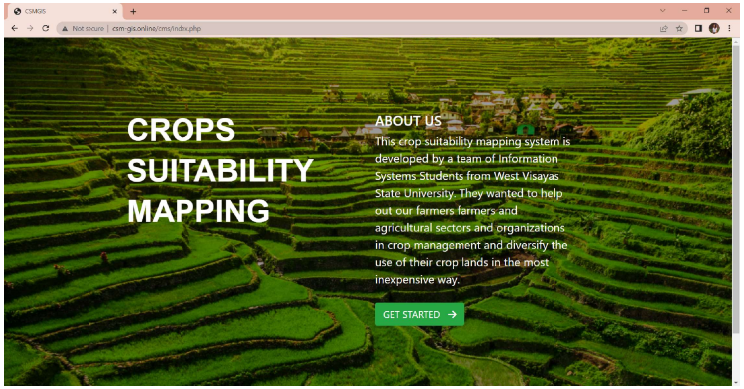
Usage

Accessing the User's Page

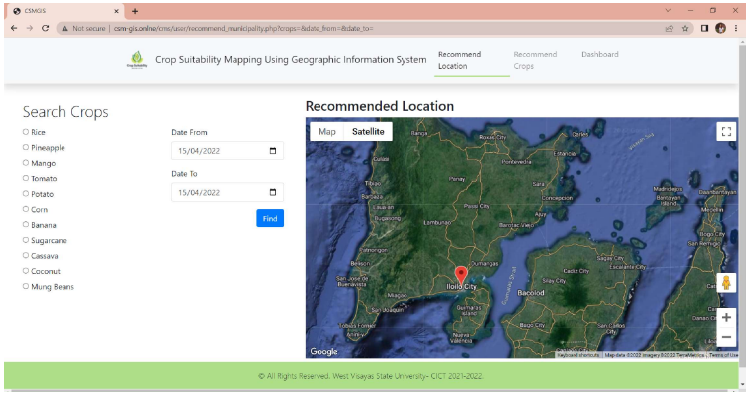
1. Go to the browser and input the link **(http://csm-gis.online/cms/index.php)**.



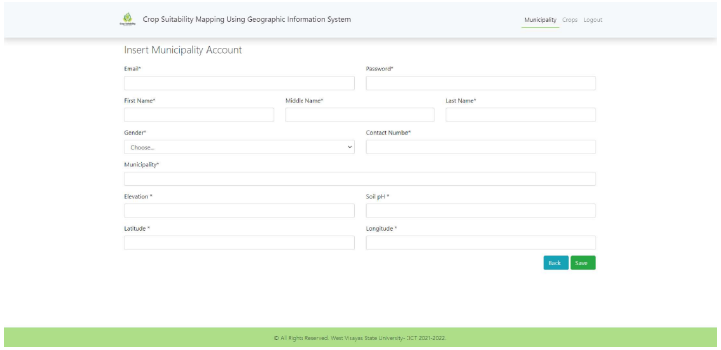
2. The user will be **redirected** to the landing page of the system. A brief overview of the system will welcome the user.



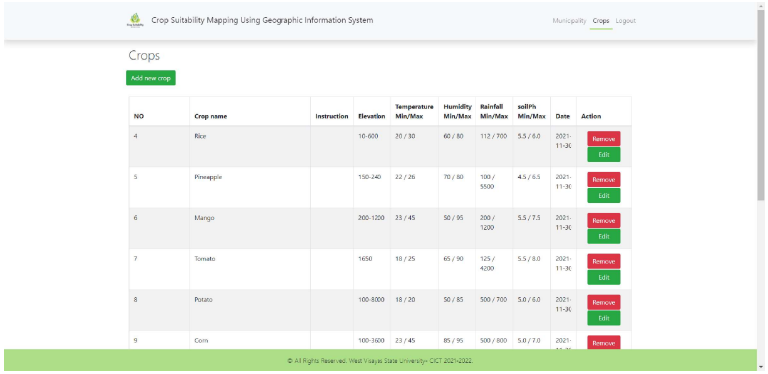
3. After **clicking** the **Get Started** button, the user will be directed to the **Recommend Location Page.**



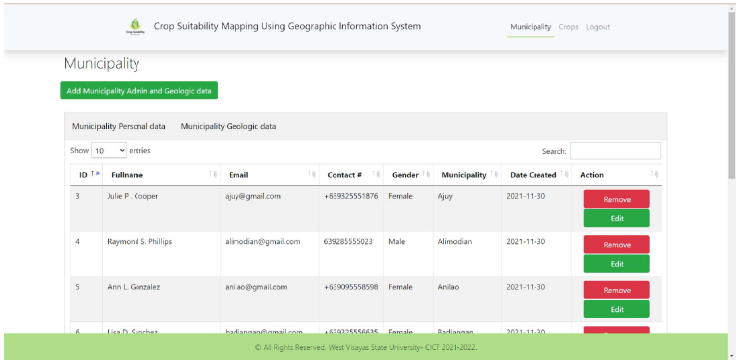
5. **Clicking** the **Add Municipality and Crop data** will redirect to the **form** where the provincial admin can **input** data of a new municipal admin. The data will be saved in the database after **clicking** the **save** button.



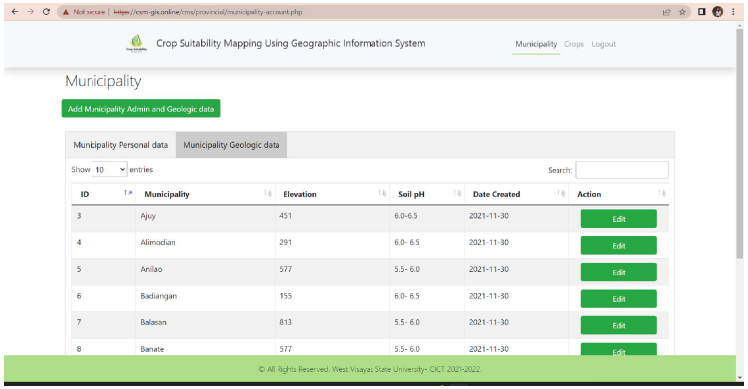
6. **Clicking** the **Crops** will go to the list of crops enrolled. The provincial admin can also edit the data by clicking the **Edit** button.



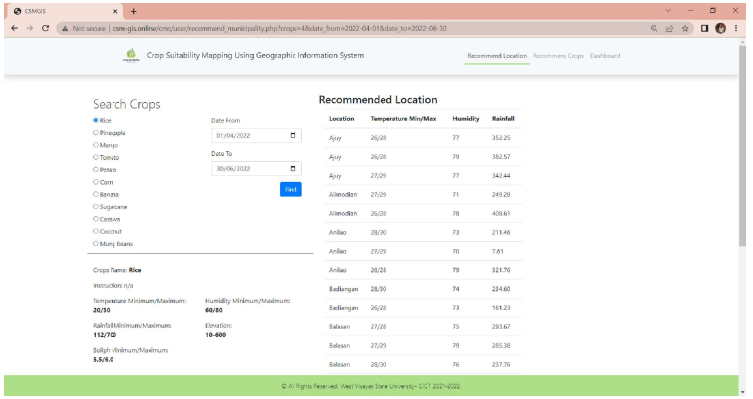
3. After clicking the **Login** button, the admin will be redirected to the list of municipal admins enrolled in the system. The admin can also edit the data by clicking the **Edit and Remove** button.



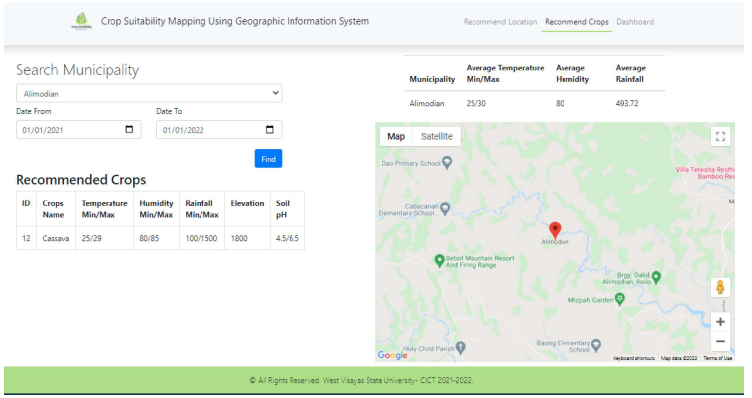
4. **Clicking** the **Municipality** will go to the list of municipalities enrolled in the system as well as its elevation and soil pH. The admin can also edit the data by clicking the **Edit** button.



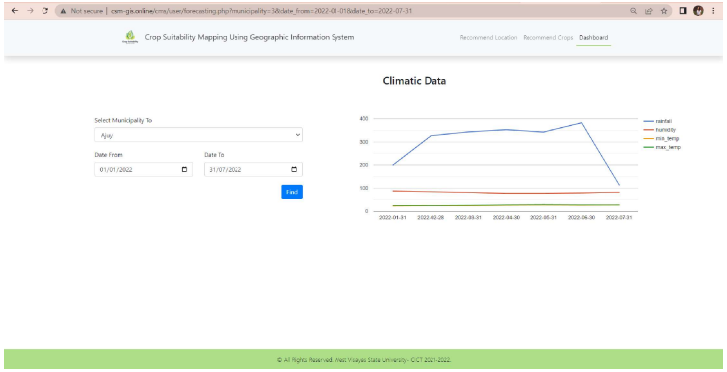
4. The users can **choose** one **crop** and **date** from the left hand side of the page, after **clicking** the **Find** button, the system will show locations suitable for the crop to grow. So far, the list of crops are the only crops enrolled by the provincial administrator into the system.



5. In the **Recommend Crops Page**, the users can choose **location** and **date**. After **clicking** the **Find** button, the map will point to the specific location and generate the top-recommended crops that can grow in that area.

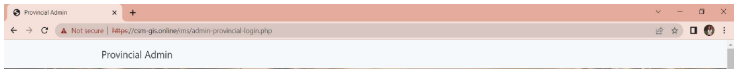


6. **Click** the **Dashboard** button and the dashboard page will be displayed. Here, is where the forecasting trends for agro-climatic data will be seen. The user will **select** municipality and date and by clicking the find button, the graph will then **show forecasted observations** for temperature, rainfall, and humidity for the chosen location at the given time ranges.

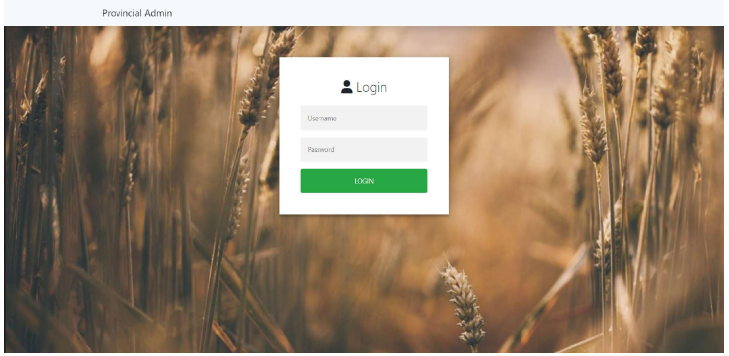


Accessing the Provincial Admin Page

1. In order for the provincial admin to enroll crop and municipality admin data, **go** to the browser and input the link **(https://csm-gis.online/cms/admin-provincial-login.php)**.



2. The provincial admin will be redirected to the login page of the system.



The admin will **input** the following credentials:
username: Admin
password: admin