



# **Community Disaster Management System with Rapid Assessment and Damage Reporting**



# **USER MANUAL**

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COMMUNITY DISASTER MANAGEMENT SYSTEM WITH RAPID ASSESSMENT AND DAMAGE  
REPORTING

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## **Disclaimer**

This software project and its corresponding documentation entitled “Community Disaster Management System with Rapid Assessment and Damage Reporting” 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.

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# **Guide for Deploying and Using the System's Main Functions**

## **Getting Started**

### **Introduction**

A community disaster management system with rapid assessment and damage reporting. The web-based system can be utilized by the admin who are the assigned barangay officials. The system

- Integrates offline data collection tool which is KoboToolbox for the collection of household information, rapid needs and damage information
- can generate household map
- can calculate shortest route
- Can summarize reports

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

### **System Requirement**

This system requires:

- Internet connection
- Windows 7 and up with processors ranging Intel Celeron and up or AMD equivalent
- Personal Computer/ Laptop

### **Installation**

There is need of installation of XAMP for the hosting of the website.

## Download and system setup/run on local web server

### Installing XAMPP

- Step 1: Download

XAMPP is a release made available by the non-profit project Apache Friends. Download the version v3.2.4.

- Step 2: Run .exe file

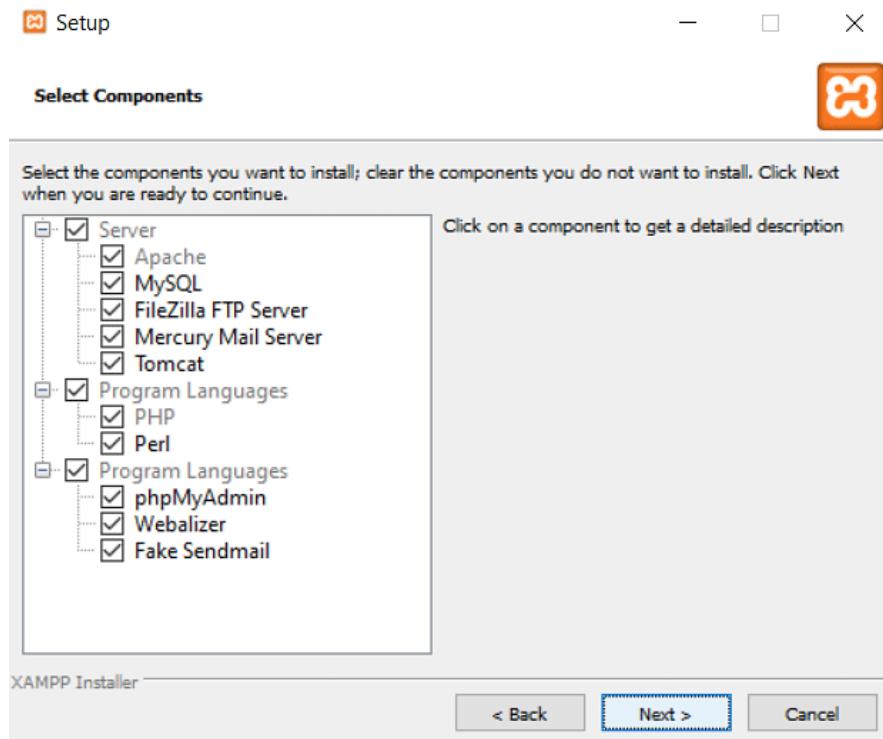
Once the software bundle has been downloaded, you can start the installation by double clicking on the file with the ending .exe.

- Step 3: Start the setup wizard

After you've opened the .exe file, the start screen of the XAMPP setup wizard should appear automatically. Click on 'Next' to configure the installation settings.

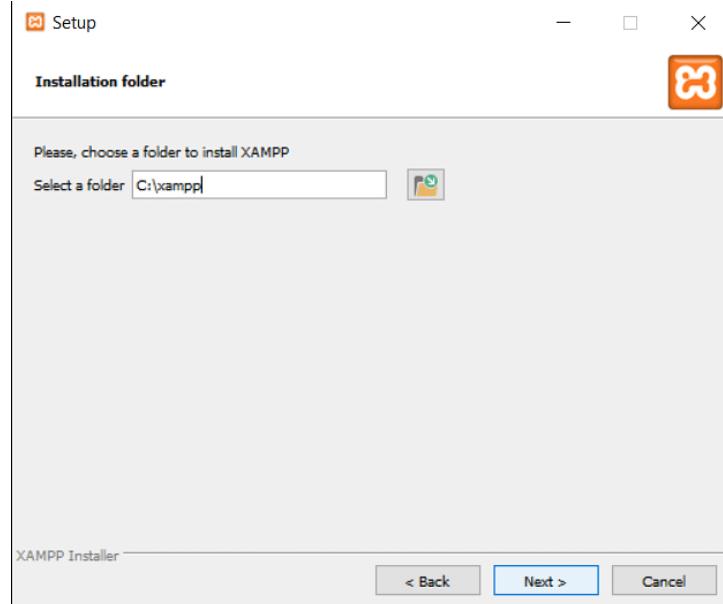
- Step 4: Choose software components

Under 'Select Components', you have the option to exclude individual components of the XAMPP software bundle from the installation.



## Step 5: Choose the installation directory

Select the directory where you want the software to be installed. It is recommended that you keep the default directory "C:\xampp" and click on "next" to complete the installation.

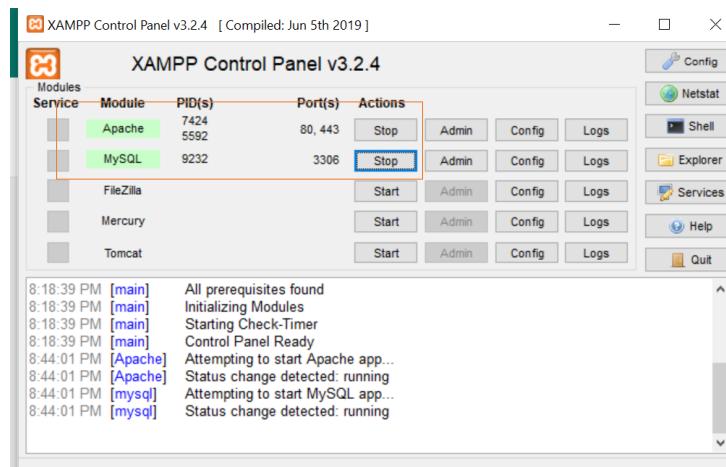


Now that the installation is complete, let's move ahead to see how to run a PHP script using the same.

## Database setup and running the system using XAMPP

Assuming that you have already set up XAMPP

- Start the database server ("MySQL Database")
- Start the PHP environment ("Apache Web Server")



Import the database of the system for the log in and register using the SQL to create new table.

```

1 CREATE TABLE `user_form` (
2     `id` int(100) NOT NULL AUTO_INCREMENT,
3     `name` varchar(100) NOT NULL,
4     `email` varchar(100) NOT NULL,
5     `password` varchar(100) NOT NULL,
6     `image` varchar(100) NOT NULL,
7     PRIMARY KEY (`id`)
8 ) ENGINE=InnoDB AUTO_INCREMENT=1 DEFAULT CHARSET=utf8mb4;

```

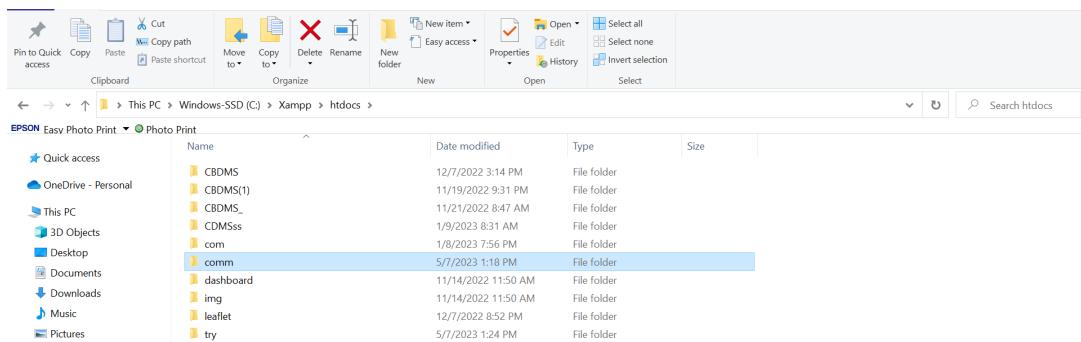
Table	Action	Rows	Type	Collation	Size	Overhead
rapid_needs	Browse Structure Search Insert Empty Drop	9	InnoDB	utf8mb4_general_ci	16.0 kB	-
rapid_persons	Browse Structure Search Insert Empty Drop	14	InnoDB	utf8mb4_general_ci	16.0 kB	-
user_form	Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_general_ci	16.0 kB	-
<b>3 tables</b>	<b>Sum</b>	<b>27</b>	<b>InnoDB</b>	<b>utf8mb4_general_ci</b>	<b>48.0 kB</b>	<b>0 B</b>

Now you can log in in the system.

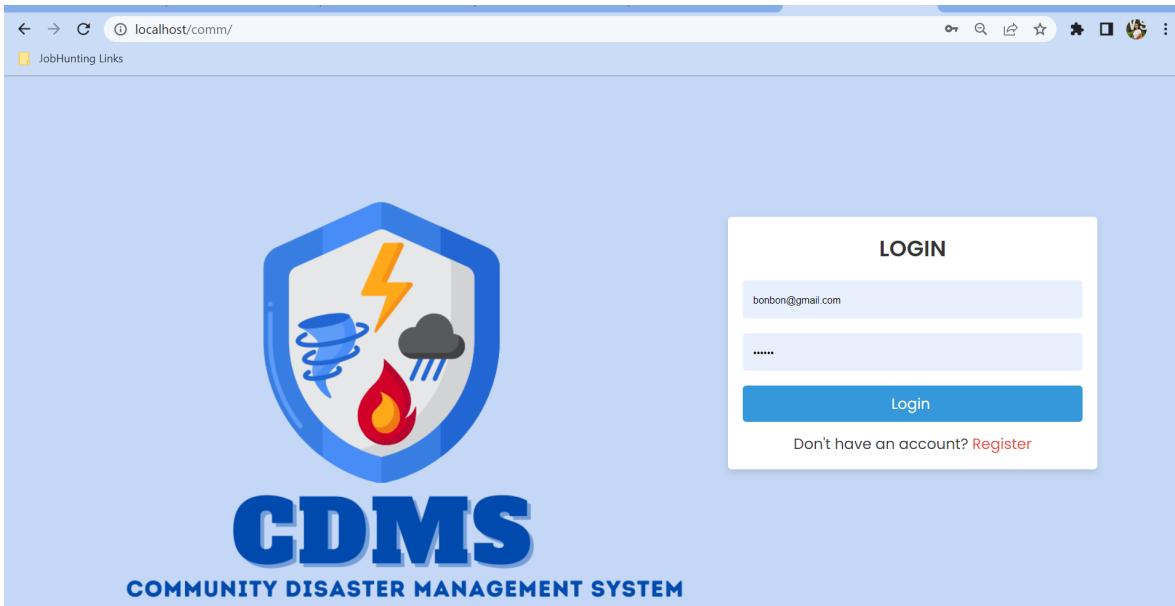
To run the system open the XAMPP directory. There is an existing folder called "htdocs". This is where all the programs for the web pages will be stored.

Now, to run a PHP script:

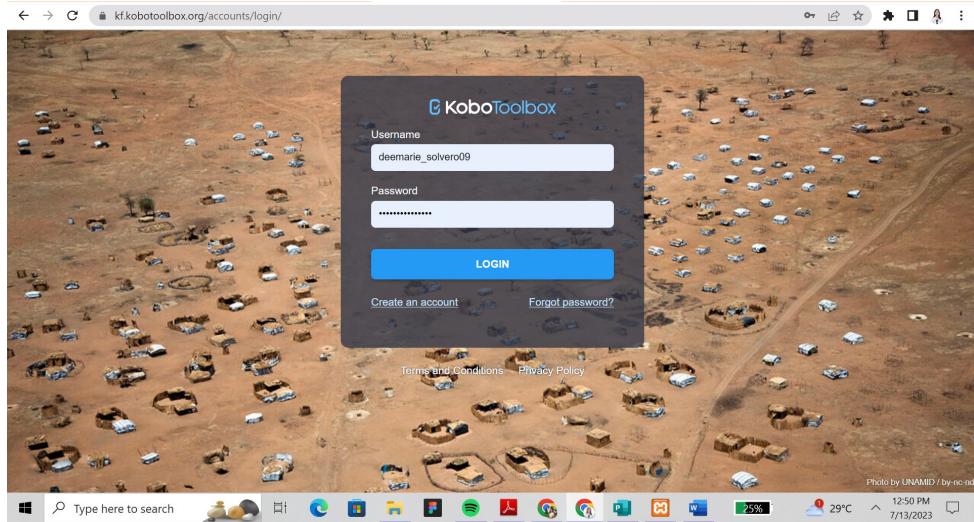
1. Go to "C:\xampp\htdocs" and inside it is where the folder of the system is located which is "comm".



2. Now navigate to your browser and type in “localhost/comm/” in the address bar to view the output.



## Accessing KoboToolbox (Only for admin)



## KoboToolbox

Go to “<https://kf.kobotoobox.org/accounts/login/>” and log in the default account “username: deemarie\_solvero09/ password: oneinamillion20” to access the forms and edit the data that has been entered.

A screenshot of the KoboToolbox dashboard. The left sidebar has buttons for 'NEW', 'Deployed' (3), 'Draft' (2), and 'Archived' (0). The main area is titled 'Deployed' and shows three forms: 'Rapid Needs Assessment', 'Damage Assessment Form', and 'Master List of Household - Lambunao Household Survey'. Below this is a section titled 'Draft' which shows two forms: 'sample' and 'Clone of Master List of Household - Lambunao'. The entire 'Deployed' section is highlighted with an orange border. The browser's address bar shows 'kf.kobotoobox.org/#/forms'. The taskbar at the bottom includes icons for File Explorer, Edge, Spotify, Google Chrome, and others.

These are the 3 forms that has been deployed in the KoboToolbox and already integrated in the system through API.

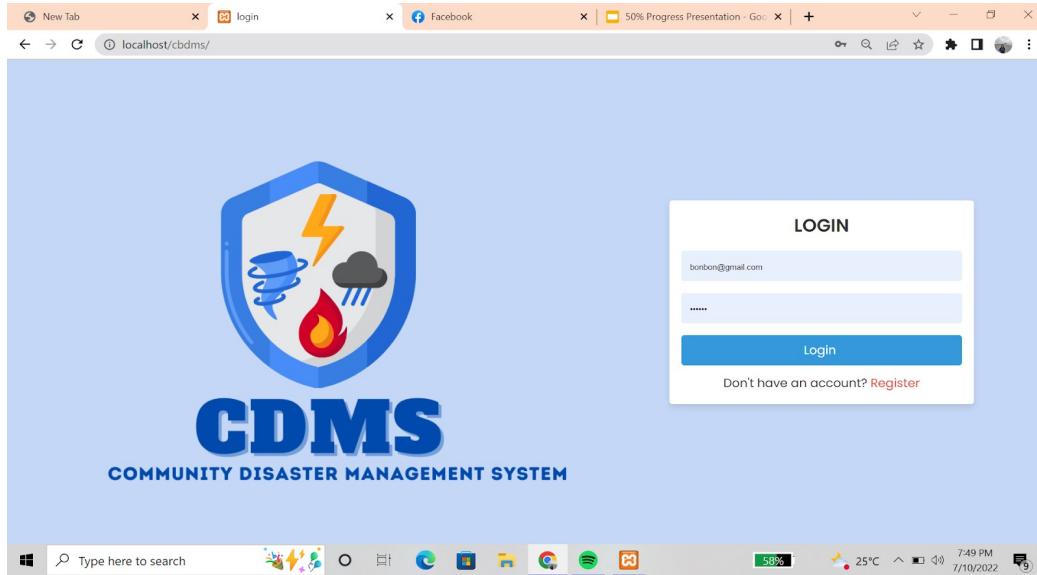
The admin has the access in editing and deploying the forms.

	Validation	start	end	interviewer	barangay	purok_sitio	barangay_id
1	—	Nov 21, 2022 ...	Nov 21, 2022 ...	Dee Marie Solv... —	bonbon	1	PH0630250
2	—	Nov 20, 2022 ...	Nov 20, 2022 ...	Dee Solvero —	bonbon	3	PH0630250
3	—	Nov 20, 2022 ...	Nov 20, 2022 ...	Dee Solvero —	bonbon	2	PH0630250
4	—	Nov 20, 2022 ...	Nov 20, 2022 ...	Dee Solvero —	bonbon	2	PH0630250
5	—	Nov 20, 2022 ...	Nov 20, 2022 ...	Alex Marshall —	bonbon	3	PH0630250
6	—	Nov 20, 2022 ...	Nov 20, 2022 ...	Marianne Marco —	bonbon	2	PH0630250
7	—	Nov 20, 2022 ...	Nov 20, 2022 ...	Marianne Marco —	bonbon	2	PH0630250
8	—	Nov 20, 2022 ...	Nov 20, 2022 ...	Alex —	bonbon	2	PH0630250
9	—	Nov 20, 2022 ...	Nov 20, 2022 ...	Marianne Marco —	bonbon	2	PH0630250

Here are the data that has been collected after the data collector submitted it through the Kobo Forms.

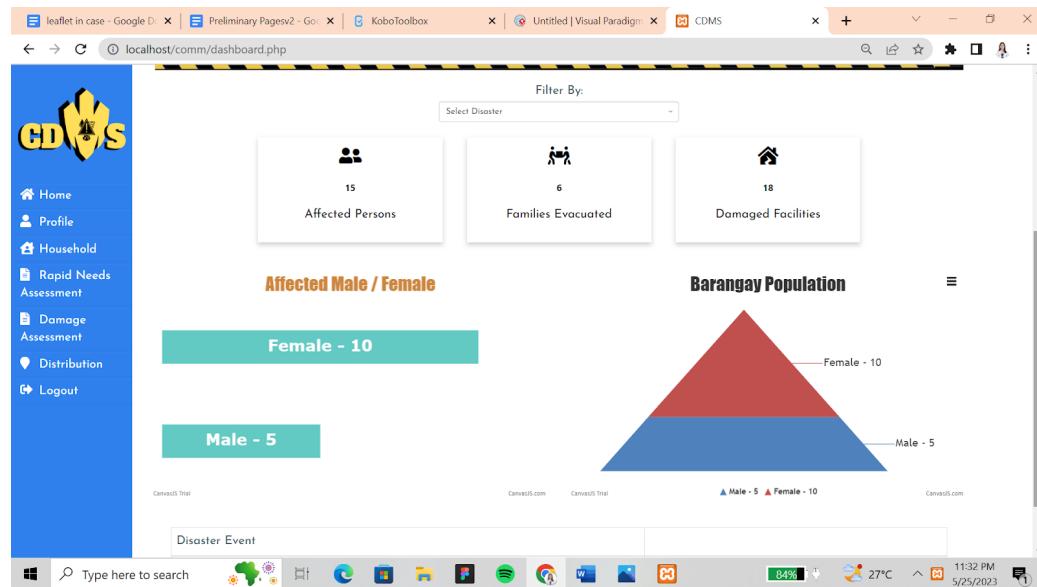
*Note: The data collectors can add the data by logging in the default account in KoboCollect mobile application.*

# How to Use Community Disaster Management System



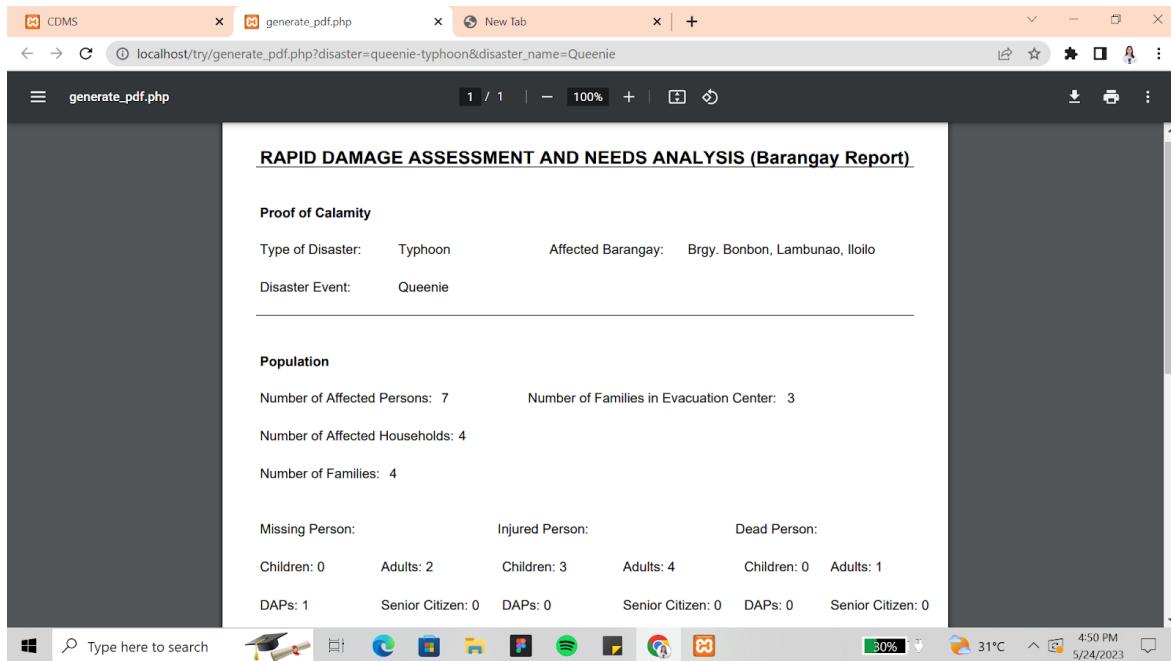
## Log in and Register Page

The first screen to appear after opening the website is the Login and register page.



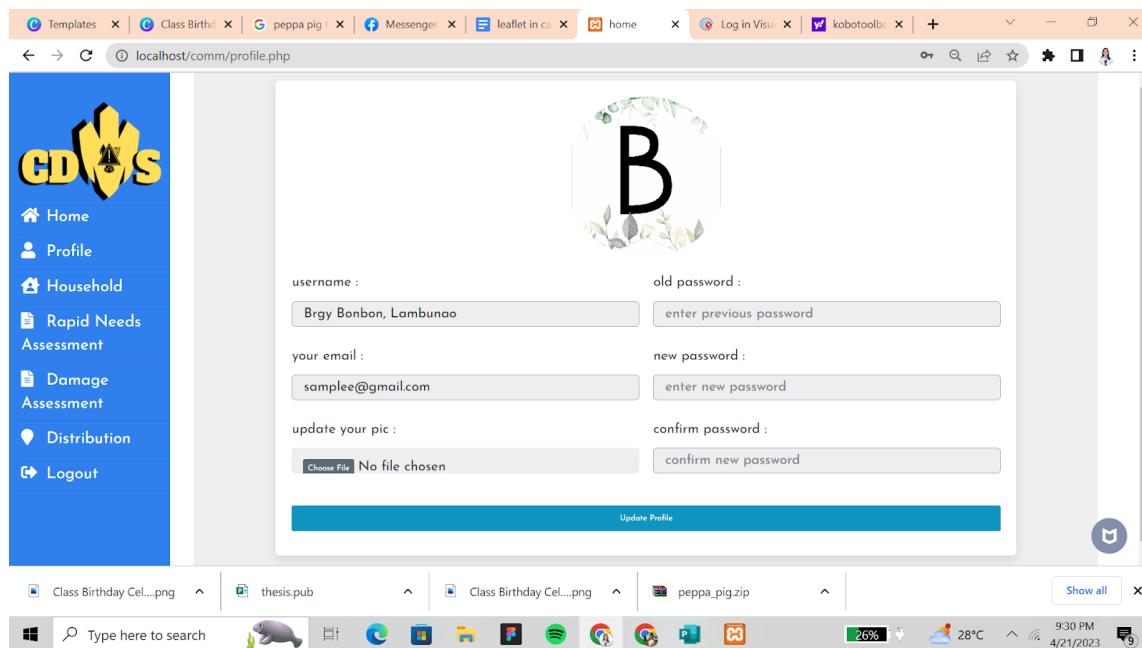
## Dashboard

It shows the count and charts of reported data in rapid needs and damage assessments.



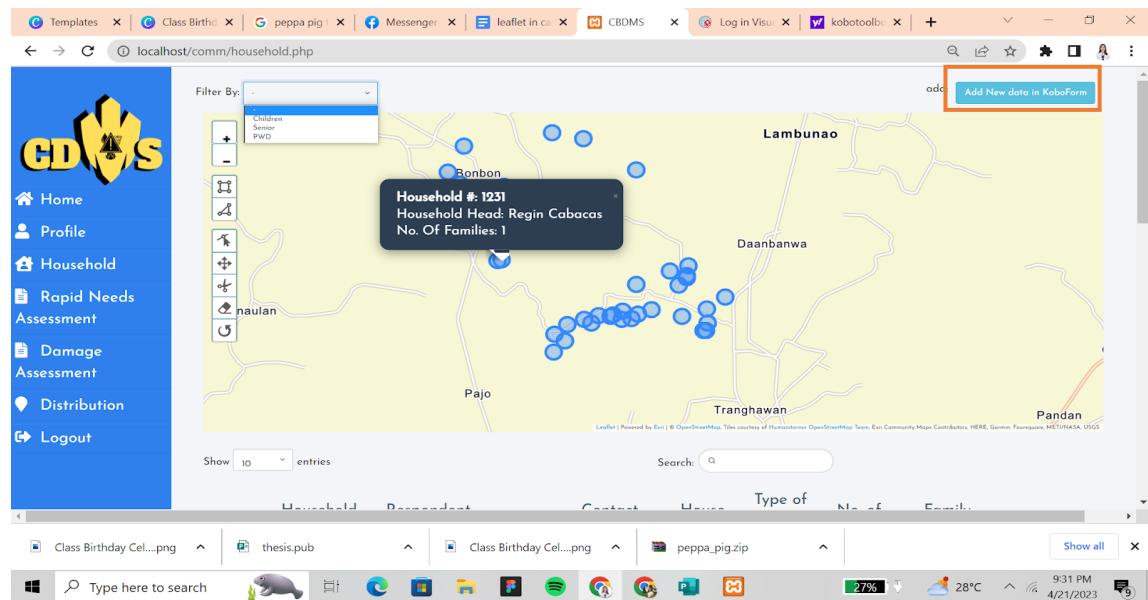
## Reports

It shows the summarized reports of rapid and damage assessment of a disaster in a pdf file. It can be downloaded and submitted to the LGU.



## Profile

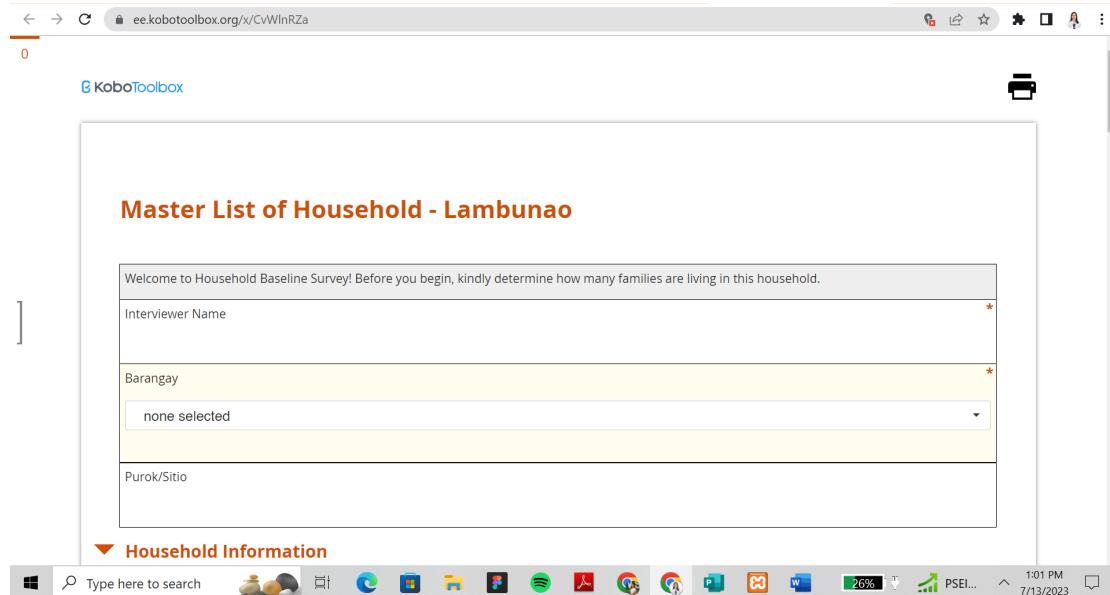
It shows the basic information of the user and their information and picture can be updated.



## Household Tab

It shows the household tab that monitors the household information and the mapping of their respective houses.

On the upper right corner of the screen the user can add household data by clicking the button and redirect the user in the Kobo form.



The screenshot shows a web-based application titled "Rapid Needs Assessment". On the left, there is a vertical sidebar with a blue background featuring a yellow logo with the letters "CDMS" and a small icon above it. The sidebar contains the following navigation links:

- Home
- Profile
- Household
- Rapid Needs Assessment (selected)
- Damage Assessment
- Distribution
- Logout

The main content area has a white background. At the top, there is a button labeled "Create New Disaster Event" in a blue box. Below this is a table with the following data:

Type of Disaster	Disaster Event	Persons Affected	Household Affected	
typhoon	Danny	8	5	<button>View Details</button>
typhoon	Queenie	6	4	<button>View Details</button>

At the bottom of the screen, there is a taskbar with several open files and system icons. The taskbar includes:

- Class Birthday Cel...png
- thesis.pub
- Class Birthday Cel...png
- peppa\_pig.zip
- Search bar: Type here to search
- File Explorer icon
- Start button icon
- Task View icon
- Windows Update icon
- System tray icons for battery (28%), temperature (28°C), signal strength, and date/time (4/21/2023).

## Rapid Needs Assessment

It shows the rapid needs assessment tab where it displays information of what kind of disaster occurred where the user can view all the information of the recorded disaster such as what type of disaster occurred and how many households and persons are affected.

On the upper left corner of the screen the user can add new disaster event by clicking the button and redirect the user in the Kobo form.

ee.kobotoolbox.org/x/lv6awdMf

## Rapid Needs Assessment

Disaster Event

Type of Disaster  
 none selected

Date and Time of Occurrence  
 yyyy-mm-dd    hhmm

Interviewer

**Household Information**

\* Household Number

\* Household Head

\* Does the household have evacuated?  
 none selected

Type here to search



1:07 PM 7/13/2023 Han...

Name of Disaster	Date & Time of Occurrence	Household Number	Household Head	Families in Evacuation Center	Missing Persons	Injured Persons	Dead Persons	
Danny	August 18, 2022 11:00 PM	1004	Catalina Amboy	Yes	0	2	0	<a href="#">View Information</a>
Danny	August 18, 2022 11:00 PM	1015	Mark Lim	Yes	1	0	0	<a href="#">View Information</a>
Danny	August 18, 2022 11:00 PM	1006	Liza Almario	Yes	0	0	1	<a href="#">View Information</a>
Danny	August 18, 2022 11:00 PM	1012	Jonny Annico	No	0	2	0	<a href="#">View Information</a>
Danny	August 18, 2022 11:00 PM	1021	Elizabeth Lorenzo	No	0	1	1	<a href="#">View Information</a>

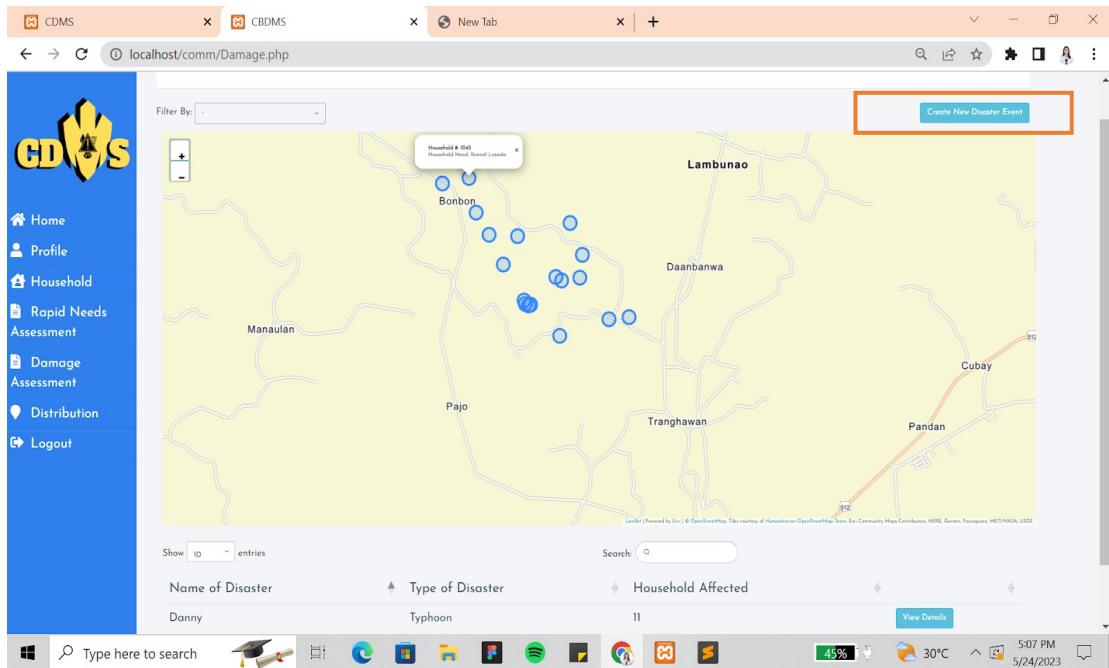
## View Details (Rapid Needs Assessment)

There is a View Details tab which can lead the user to see the information of the affected households and their evacuation status.

Missing Persons				
	Name	Age	Gender	Part of DAP
	Lim, Deigo	12	Male	No

## View Information Tab (Rapid Needs Assessment)

It shows an option for the user where they can click the View Information tab to see the information of affected persons such as Missing, Injured, and Dead persons.



## Damage Assessment

It shows the damage assessment tab to map out those damaged infrastructures. It also shows all the information such as what kind of infrastructure there is and if it is partially or totally damaged.

On the upper right corner of the screen the user can add damage data by clicking the button and redirect the user in the Kobo form.

<b>Disaster Event</b>	
<input type="text"/>	
<b>Type of Disaster</b>	
<input type="text"/> none selected	
<b>Date and Time of Disaster Occurrence</b>	
<input type="text"/> yyyy-mm-dd	<input type="text"/> hh:mm
<b>Interviewer</b>	
<input type="text"/>	
<b>Household Number</b>	
<input type="text"/>	
<b>Name of Household Head</b>	
<input type="text"/>	
<b>Type of Infrastructure</b>	
<input type="text"/> none selected	

**Damage Assessment**

Interviewer	Household No.	Household Head	Type of Infrastructure	Picture	Type of Damage
Ana Caprio	1001	Robert Santiago	house	<a href="#">View Image</a>	totally
Alex Marshall	1002	Robert Santos	house	<a href="#">View Image</a>	partially
Alex Marshall	1004	Catalina Amboy	house	<a href="#">View Image</a>	totally
Alex Marshall	1006	Liza Almario	house	<a href="#">View Image</a>	totally
Alex Marshall	1015	Mark Lim	house	<a href="#">View Image</a>	partially
Alex Marshall	1024	Johnfel Rey Reyes	house	<a href="#">View Image</a>	partially
Alex Marshall	1017	Isidro Copina	house	<a href="#">View Image</a>	totally
Alex Marshall	1003	Anita Reyes	house	<a href="#">View Image</a>	partially
Alex Marshall	1007	Rex Albay	house	<a href="#">View Image</a>	totally
Alex Marshall	1001	Antonio Aguilar	house	<a href="#">View Image</a>	totally
Alex Marshall	1045	Ronnel Lozada	house	<a href="#">View Image</a>	totally

## Picture of Damage Infrastructure

It shows an option to view the image/picture of the damaged infrastructure for validation and to assess what type of damage has occurred.

**Distribution Route**

It shows the shortest route between the 2 points for the distribution of the urgent needs of the vulnerable population.

## **Troubleshooting For Fixing Possible**

Incase of problem occurrence try the following:

1. Check connection to your network provider such as cabling and signal
2. If the account doesn't work import the user database in the localhost/phpMyAdmin/
3. If the localhost cannot detect the system double check if the folder of the system is on the folder of the directory which is "C:\xampp\htdocs" .
4. Contact the development team for further assistance of the troubleshooting

## **FAQ (Frequently Asked Questions)**

### **1. How can user collects data?**

The user collects data through KoboToolbox with the integration of API, the data will import to the system and only the admin and data collectors can edit, delete, and add data. The user can still add a data if there is no internet connected and the data will automatically save in the system once the internet connection is available.

### **2. What is the system all about?**

Community Disaster Management System with Rapid Assessment and Damage Reporting, is a system that can generate data on households, especially the vulnerable populations such as children, elders, and persons with disabilities, by integrating with offline collection tools and mapping of households using an OpenstreetMap.

### **3. Who are the user/s?**

The system will be deployed in the barangay hall not in the LGU and to be managed by barangay officials.

### **4. Who can benefit the system?**

Study would be a great contribution to the vast population in relation to preparedness and readiness of a certain area. Vital results of this investigation could be highly significant and beneficial especially to the communities, and Local Government Units.

### **5. What are the languages used to develop a system?**

The web-based system was developed using Sublime text as IDE, XAMPP for local hosting, PHP, HTML, CSS and Javascript

## Contact Details of Development Team

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