

The logo features a central white circle with a dashed blue border. Inside the circle, the text "Hail Hydra" is written in a bold, blue, sans-serif font. Below it, the words "Water Conservation and Distribution System" are written in a smaller, blue, sans-serif font. The circle is surrounded by a splash of white water droplets and bubbles. The entire logo is set against a solid blue background with several diagonal blue lines of varying lengths and opacities.

Hail Hydra

Water Conservation and
Distribution System

Overview



Rainwater harvesting is collecting and storing the rainwater into storage tanks/reserves instead of letting it run off.



The more the surface area of the roof to collect water, the more can be harvested. Where do we get large roofs? - Housing societies, malls, corporate industry buildings! All of them can be used to harvest rainwater and make it available to meet the water needs of the city!



For that, we need a water conservation and distribution system!

Why do we need the proposed system?



11 of 20 biggest cities in the country are facing extreme risk of scarcity, according to Water Stress Index. In India only 8% of rainfall is being harvested and utilized.



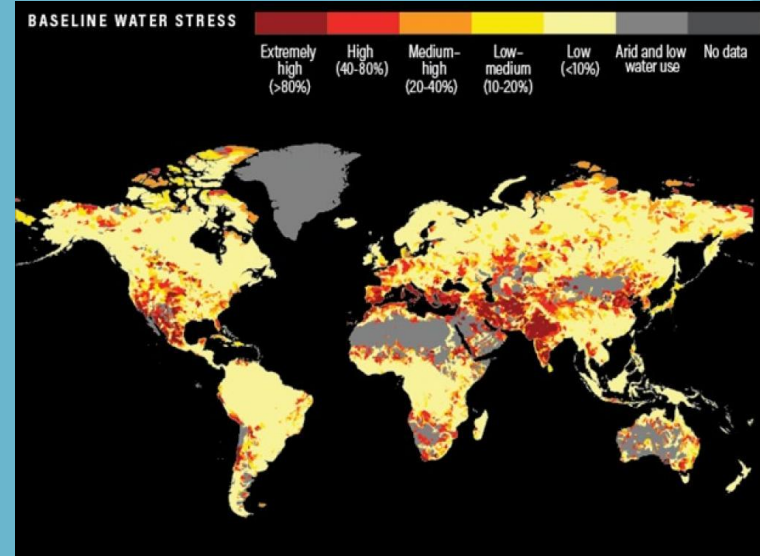
This analysis by the world resources institute shows India at extreme risk of water stress.



The sub-national Water Stress Index, formulated by London-based risk analytics firm Verisk Maplecroft, lists India as the 46th highest risk country in the world



Majority of common people are not benefited from RWH, despite having water scarcity problem. Common people does not have facility to book/order water from their own place.



Some Facts!

According to the index, Delhi, Chennai, Bengaluru, Hyderabad, Nashik, Jaipur, Ahmedabad and Indore are among the cities facing 'extreme risk'.



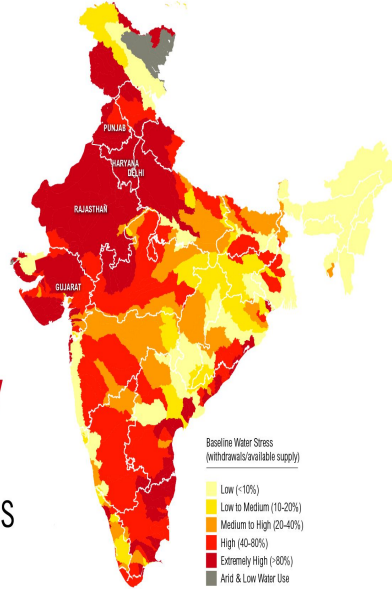
In the next 3 decades,
demand for water in
cities is projected to
increase by

50-70%



54%

of India
Faces
**High to
Extremely
High**
Water Stress



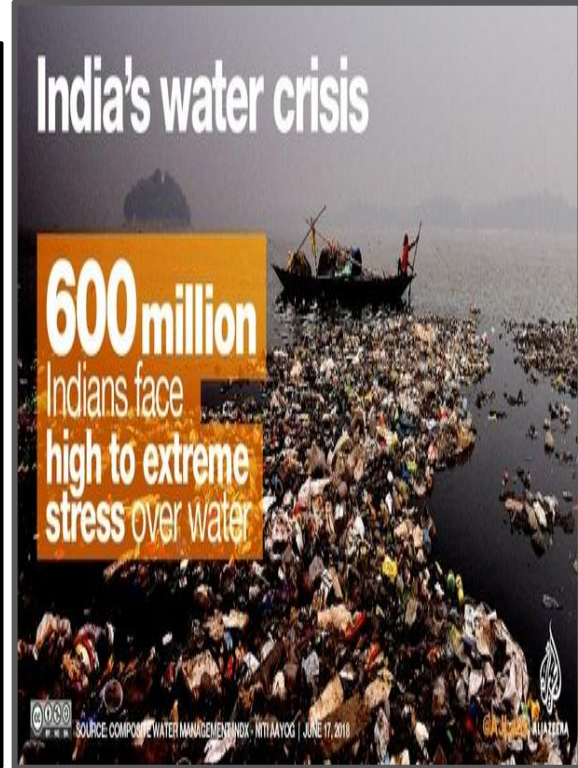
www.indiawatertool.in

 WORLD RESOURCES INSTITUTE

**Over 600 million Indians face
high stress over water!**

India's water crisis

600 million
Indians face
high to extreme
stress over water



SOURCE: COMPOSITE WATER MANAGEMENT INDEX - NITI AAYOG | JUNE 17, 2018

 ALJAZEERA

Our Services



One Tap Water Booking

User can easily book the water by signing into the website.

Option A



Easily access to all Water Provider Services

A registration can activate an industry to our portal.

Option B



Apply for Subsidy

You can easily apply for the subsidy of rain water harvesting plant.

Option C



Filling Stations/ Overhead water tanks/ ESR(Escalated Storage Reservoir)

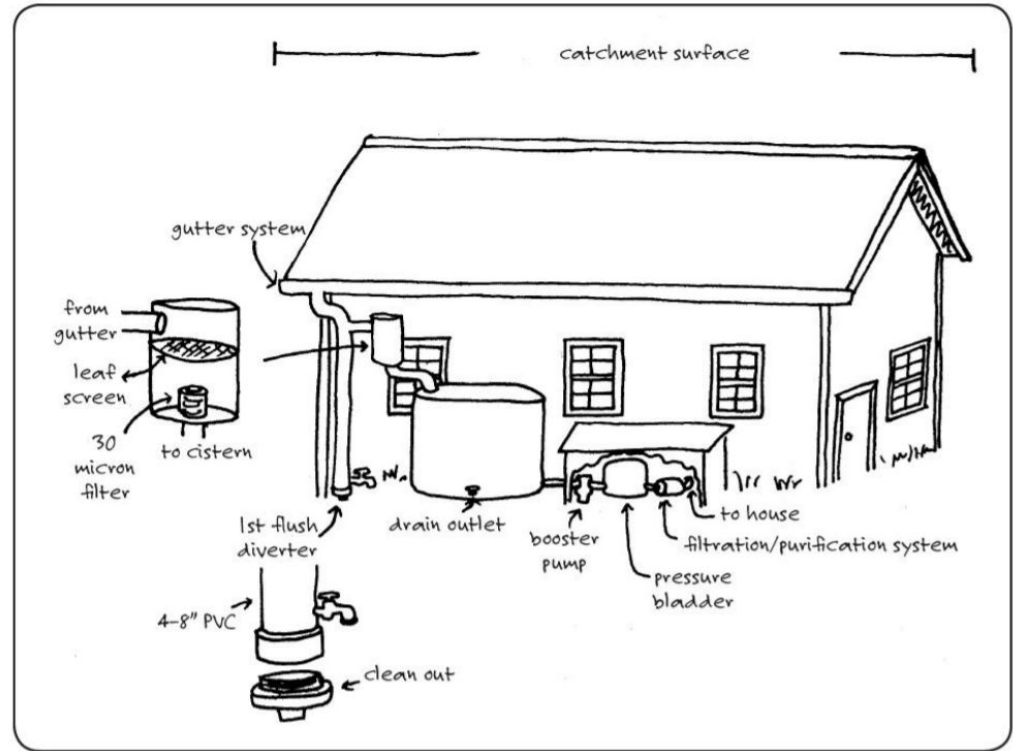
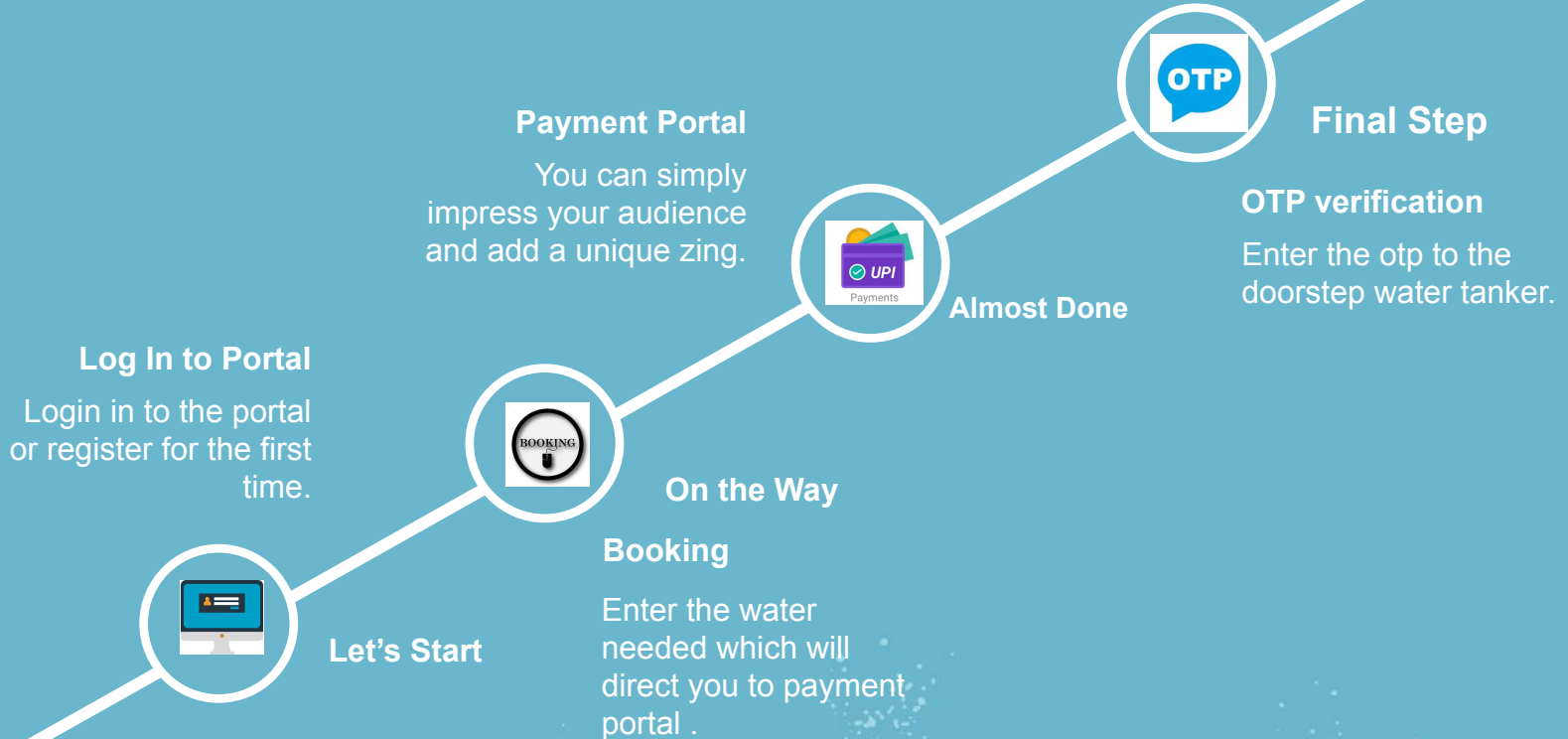


FIG. 8.2. Typical components of a whole-house rainwater harvesting system.

Rain Water Harvesting (RWH) plant

Flow of Control for User



Institute Flow

Institute means School, College, Government Offices, Corporate Sectors, Industries, Private Sectors and all the different structures which can store water



Registration

Enter the details needed for the registration of the industry.

Verification

Physical verification by the water department.

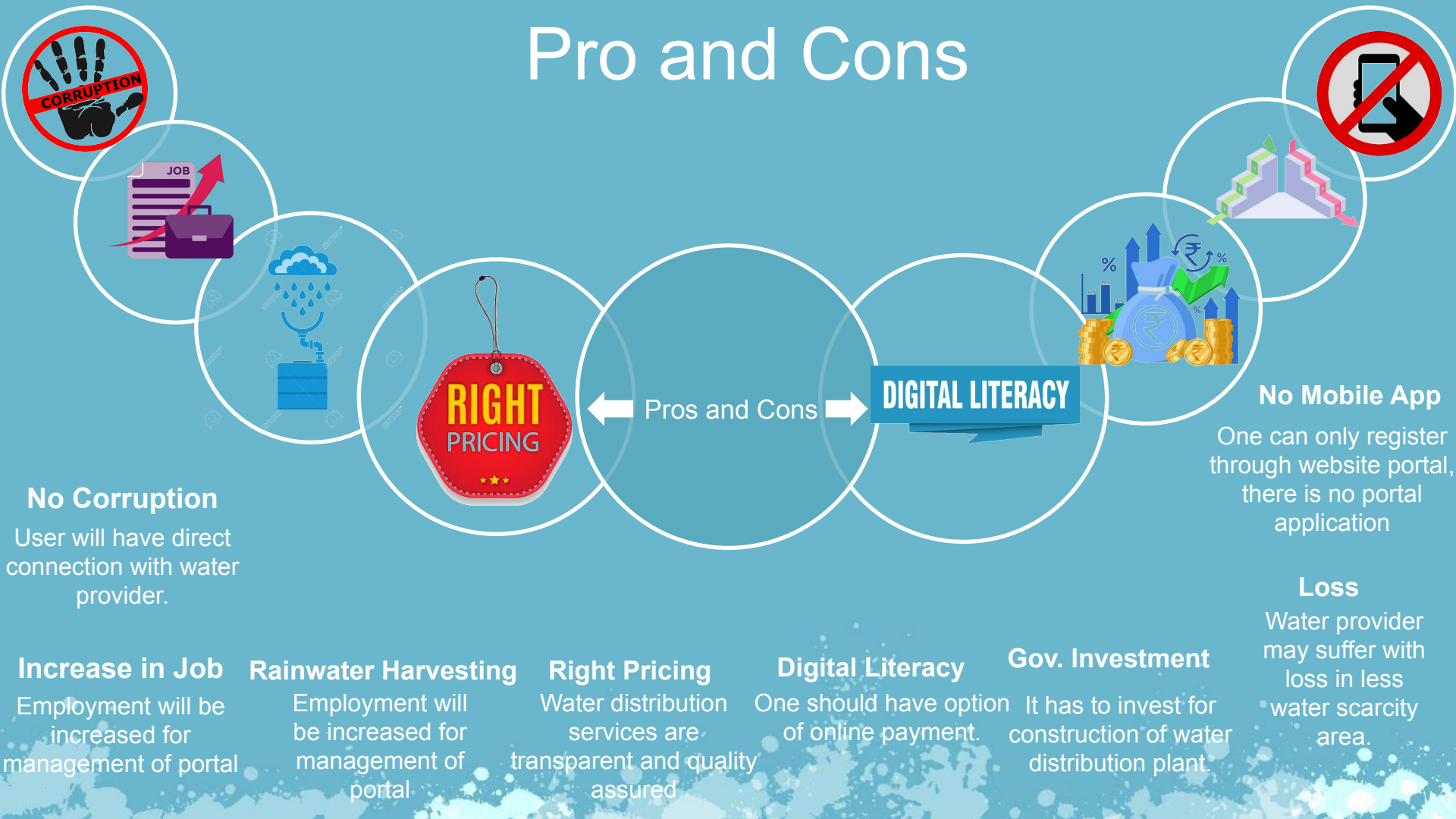
Updates

Receive Daily updates from the zonal office.

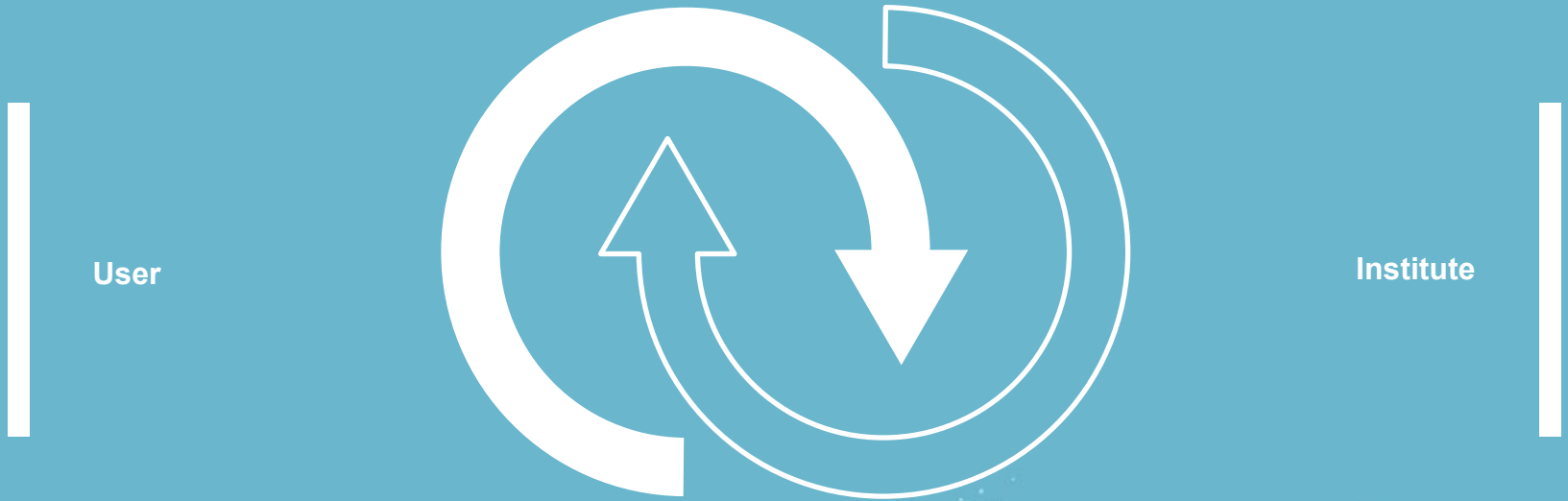
Collection of Water

Tanker will collect water as and when required,

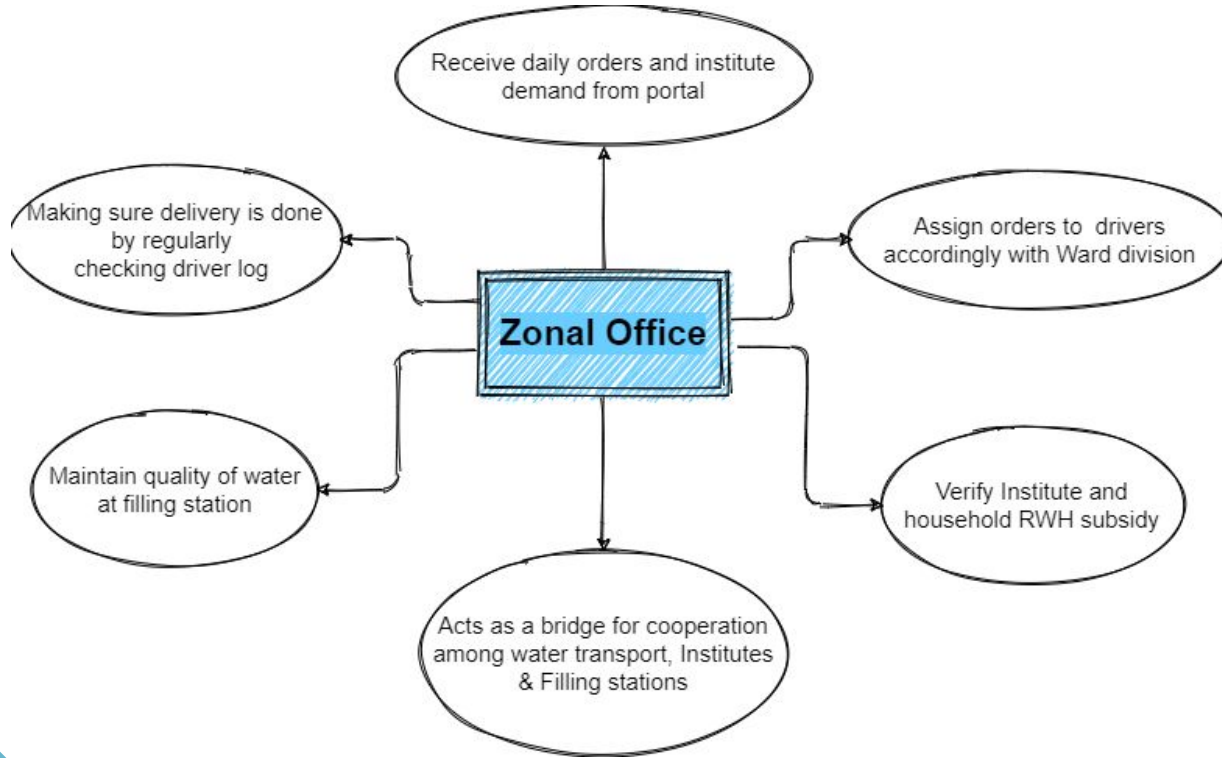
Pro and Cons



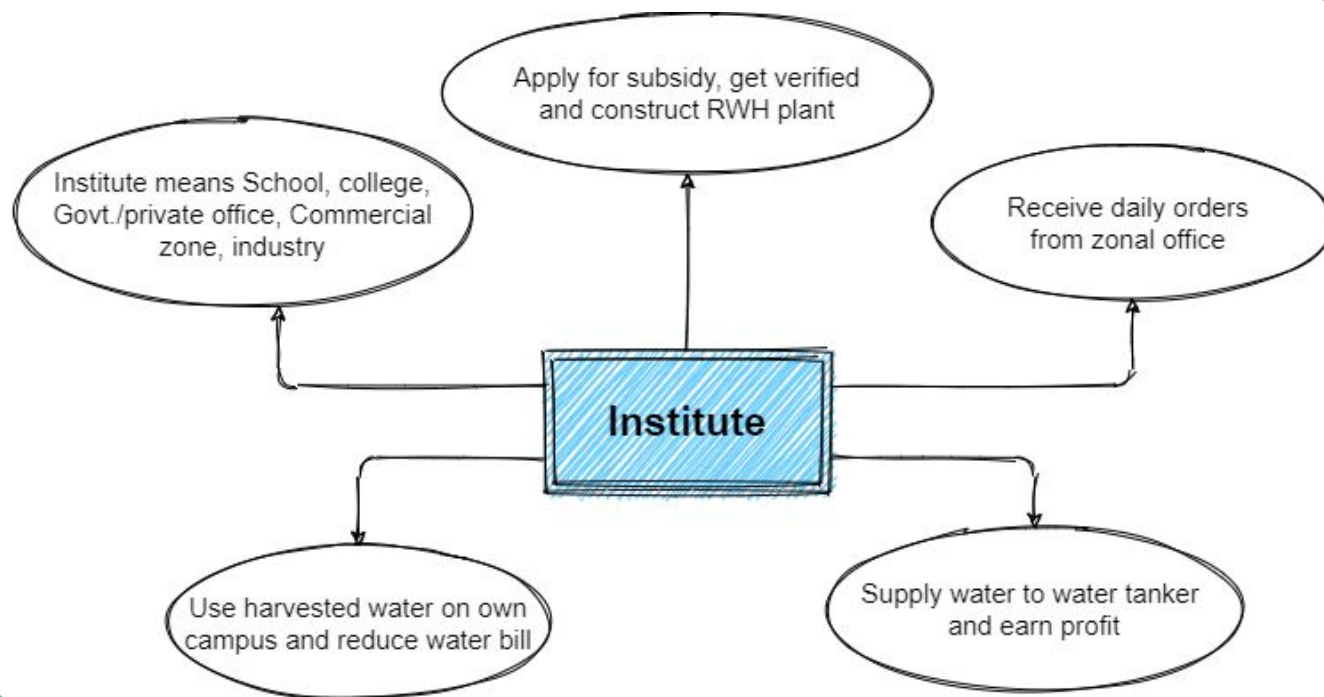
Background Work



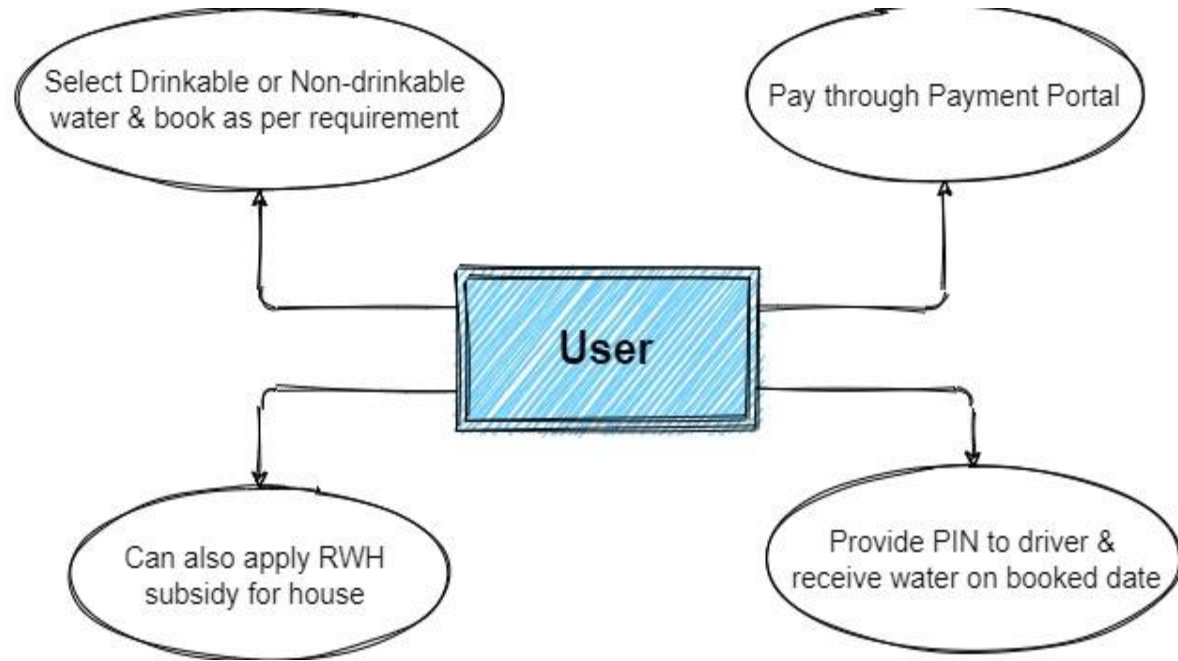
Role of Zonal Office



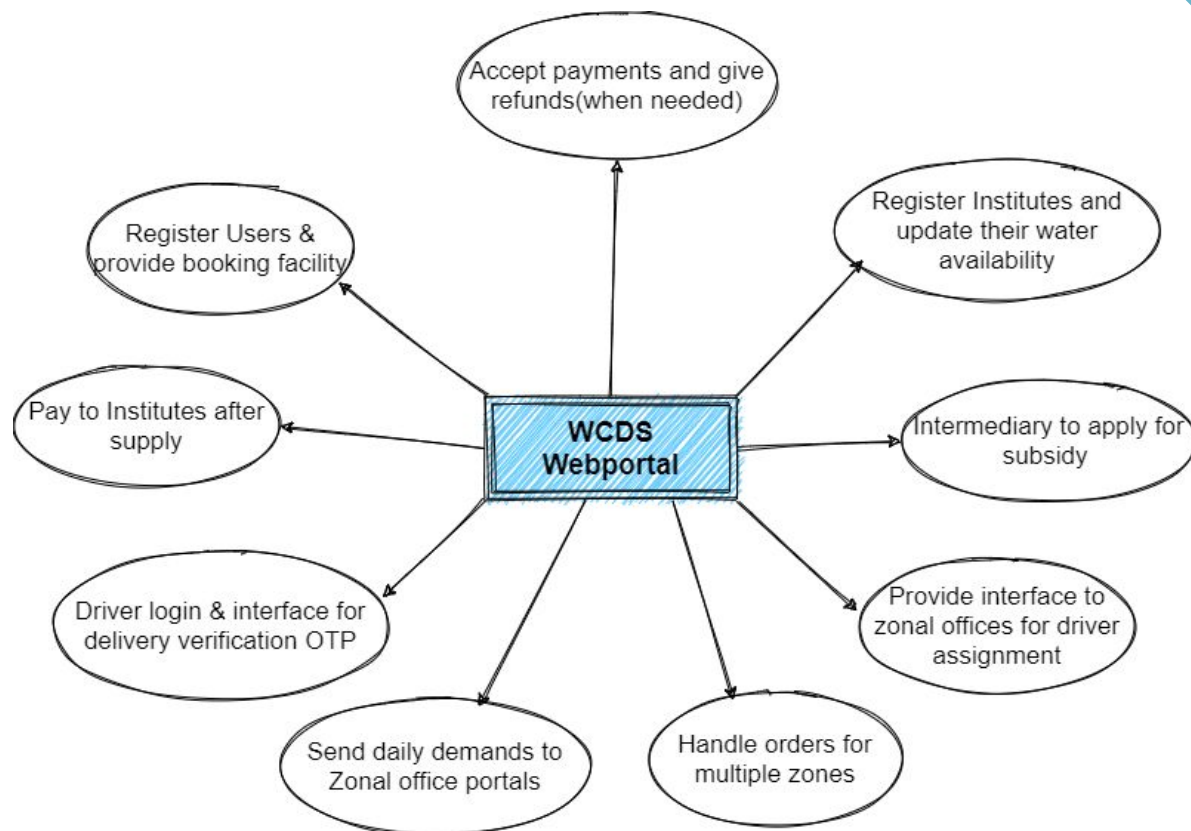
Role of Institute



Role of User



WCDS Portal





Day 2

Hail_Hydra

Water Conservation and Distribution
System

Evaluation Takeaways from Mentoring and Evaluation Round

- ☁ Special Room for Construction Sites
- ☁ Repeated Cancellation and Refund System
- ☁ Easy and flexible for User
- ☁ Proper Flow Control of our portal
- ☁ Feedback and Rating System
- ☁ Priority Queue for the User
- ☁ Clean and Transparent System
- ☁ One min pitching and Proper presentation skills

Our Next Targets



Focusing to introduce features which will attract more users. Some cases like:

1) Repeated cancellation from zonal office.

We have thought regarding it that if for any means its order get canceled, he will get an option to reschedule the booking on any of the next three days. This will make sure that his delivery will be fulfilled within 3 days.

2) Only web portal limits our users.



Adding a verification step at the industry site also. A otp will be send to the industry during the distribution.

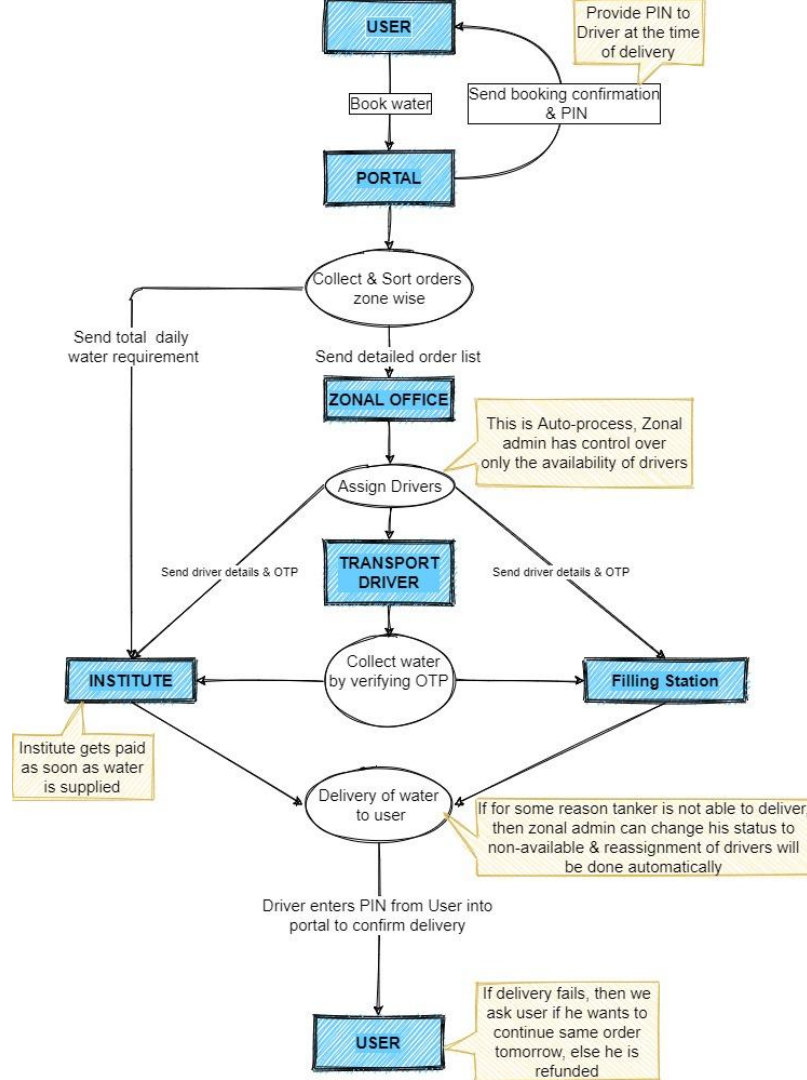


Till now we are facing a problem to introduce a payment portal but we have figured out and will implement it.



Finally, we will have domain of our website so that everyone can test it. We will do our best to add more features in our portal.

Project Workflow





Welcome Back!

Enter Email Address...

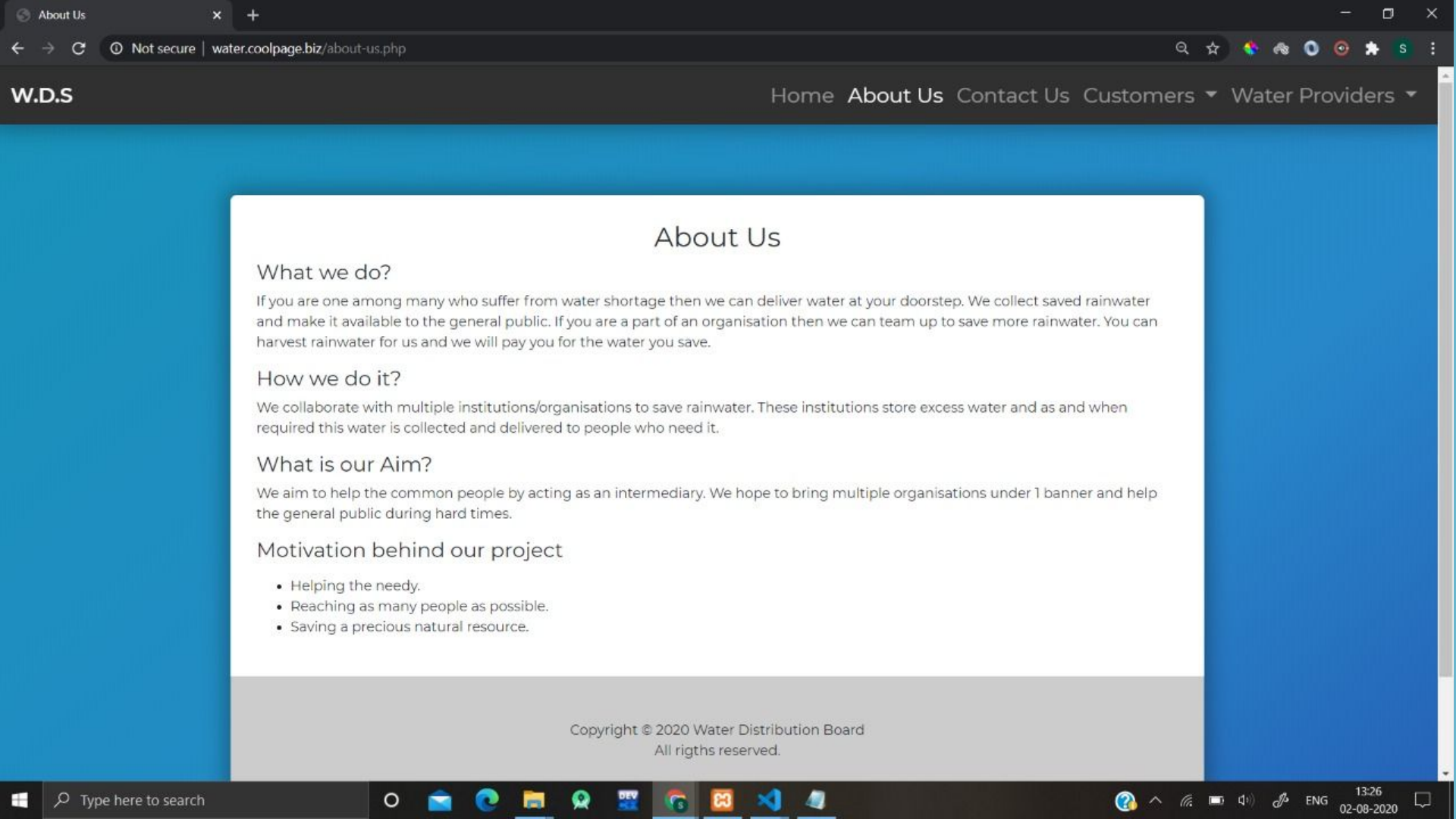
Password

☐ Remember Me

Login

[Forgot Password?](#)

[Create an Account!](#)



About Us

What we do?

If you are one among many who suffer from water shortage then we can deliver water at your doorstep. We collect saved rainwater and make it available to the general public. If you are a part of an organisation then we can team up to save more rainwater. You can harvest rainwater for us and we will pay you for the water you save.

How we do it?

We collaborate with multiple institutions/organisations to save rainwater. These institutions store excess water and as and when required this water is collected and delivered to people who need it.

What is our Aim?

We aim to help the common people by acting as an intermediary. We hope to bring multiple organisations under 1 banner and help the general public during hard times.

Motivation behind our project

- Helping the needy.
- Reaching as many people as possible.
- Saving a precious natural resource.

Generate Report

21/07/20
20 mL

General Instructions:

- The connection of institute will always be with the zonal office. You don't have to share your any information with anyone.
- Institutes will be offered orders only in days of scarcity(decided by government) so as to reserve water supply for days of scarcity.
- In case of any direct demand or found providing water to any external resources, actions will be taken.
- You can easily apply for the rain water harvesting plant and hold a place in this portal.
- Institute will keep on updating as per the water requirement and your contribution.
- You can contact us for any related queries.

Registration Process:

- Every Institute must have to fill their correct details and apply for the subsidy and verification of the given details. Once completing the details, their registration will be done.
- Institute have to verify their details physically at their respective zonal office within 30 days of the registration.
- Once all the documents are correctly checked and they are verified, they will appear on the portal.
- Then Institute will acquire subsidy from Govt.

Supply of water

- You will receive a message of amount of water you have to provide (surly it will be less than or equal to the water you entered that you can provide) along the time.
- A tanker or any other water service will arrive at your doorstep collecting water from your side.
- You will get a online receipt in order to claim any type of uncertainty in the future.
- Money will be transferred to Institute account as soon as water is acquired from it.

Update our profile

- In case to change the amount of water supply, you have to provide the details at least 7 days before it. In not doing so a fine may be imposed in case of high demand.
- Change in any official document will need verification at the zonal office.

Want to close

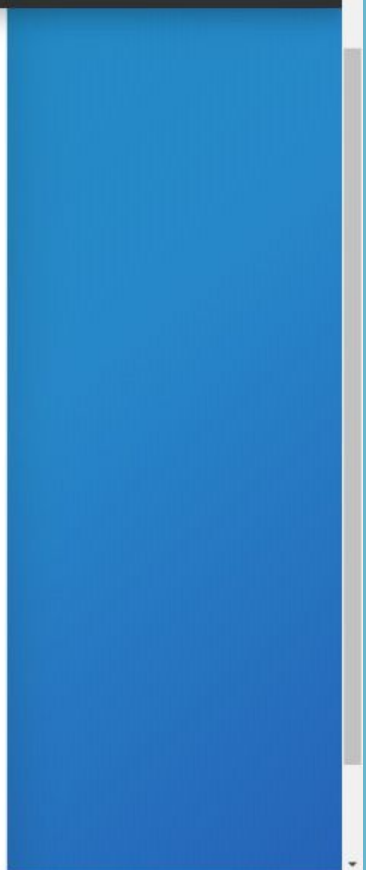
- In case a institute wants to close the RWH plant or want to detach from the portal, they have to apply 15 days before.
- They have to provide the reasons and also the documents of subsidy in case if you have taken.
- Institute can continue to use RWH plant for its own use.
- Due to natural calamities or any other unstoppable situation, we will consider it as per the government instructions.

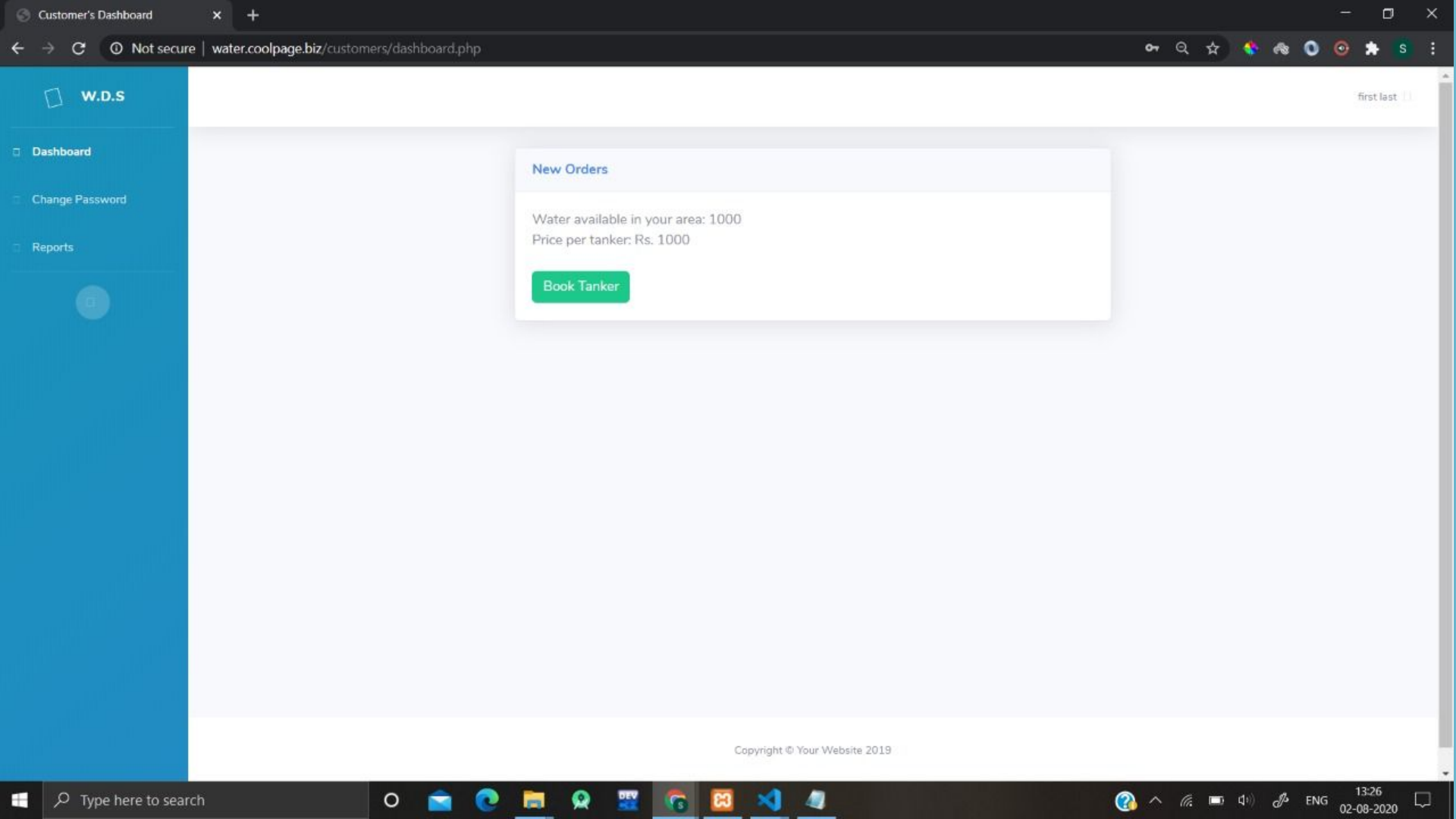
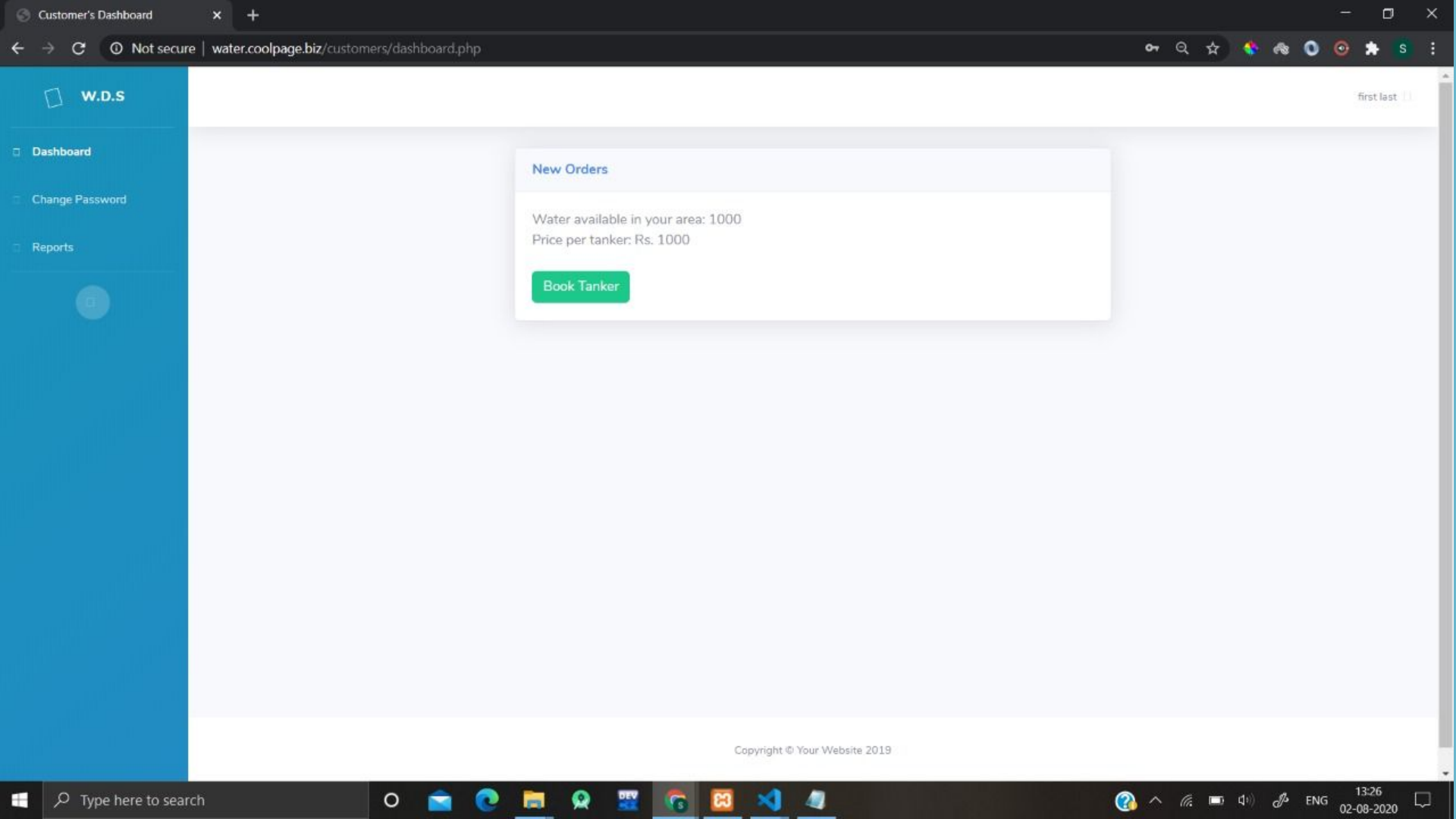


Create an Account!

Select State ▾

Select City ▾



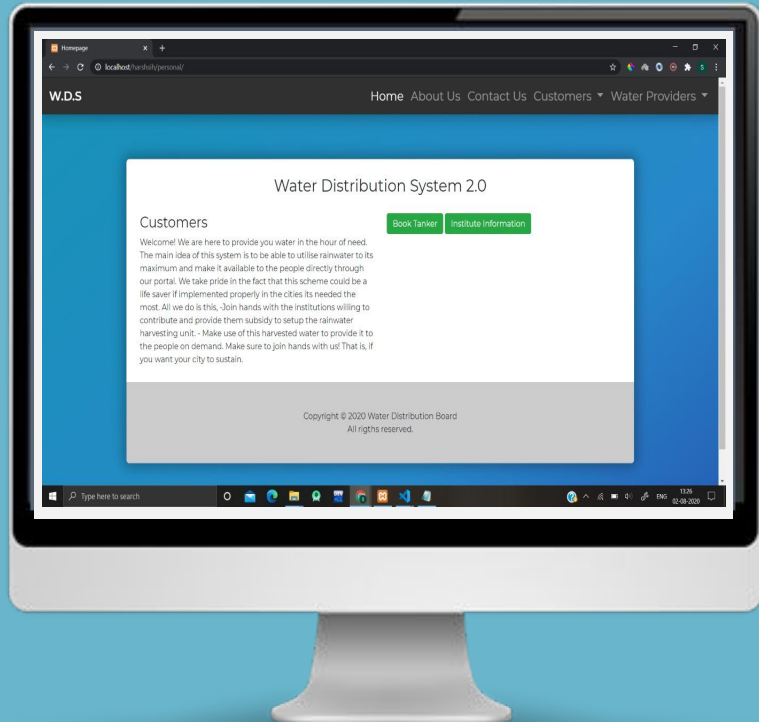


Day 3

Water Conservation and Distribution System (WCDS)

Team : Hail_Hydra

More Towards User Friendly



1) **FeedBack System** : A proper feedback will be taken just after the delivery and also a feedback form will be there on the website for any other queries.

2) **Emergencies Supply**: A particular amount of water will always be stored for emergency purposes.

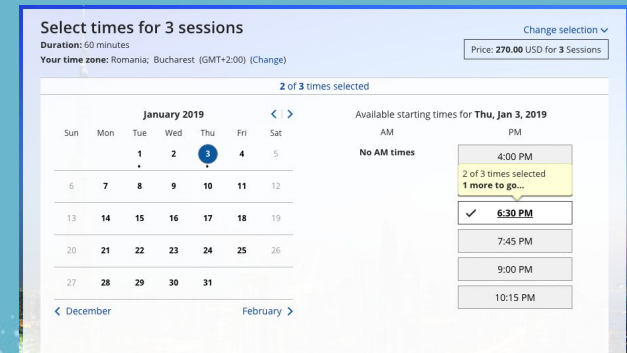
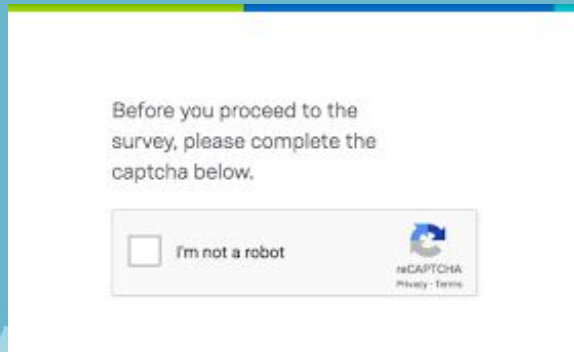
3) **Current Availability Status**: While booking, current available water in that zone will be visible to user.

4) **More Flexibility during Registration**: User finding difficulty in meter connection can provide his/her house number instead of it.

5) **Construction or Other purposes**: ser (those who don't have meter connection or house number) can submit official documents as a proof of construction work or other and fill a form on the website.

Takeaways from Day 2 Evaluation Round

- ☁ Addition of GPS tracking system for Driver so that water theft can be stopped.
- ☁ Instead of giving user 3 days to book , we will keep his request valid until he receives the order.
- ☁ Additional security features such as CAPTCHA on login, registration and payment portal





Final Presentation

Water Conservation and Distribution System (WCDS)

Team : Hail_Hydra

Social Impact



Rain water harvesting is need of an hour & we are commercialising it, so RWH will become popular and thus common people will be encouraged and promoted to conserve rain water.



Due to conservation of rainwater, Mother Earth will be saved as well, and people will not suffer from scarcity.



Reduced burden on Municipal Water supply & Digital transaction will bring in efficiency and transparency.

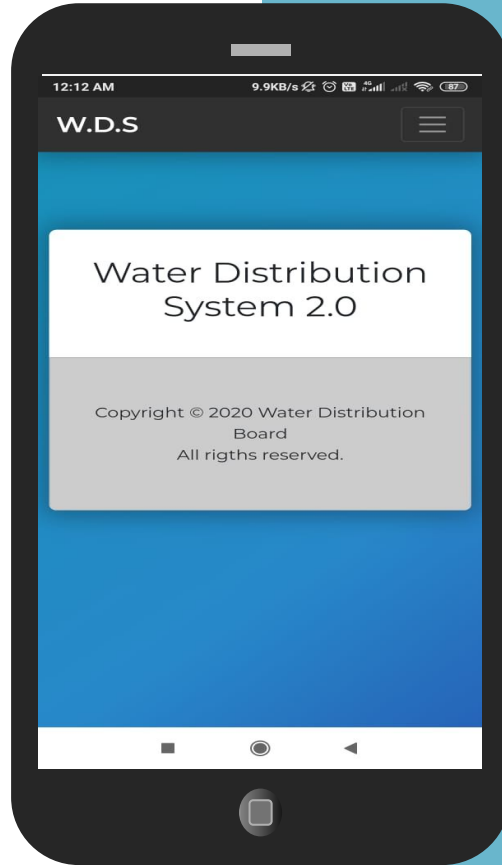


It will provide jobs to people.



No contact system releasing burden of documentation.

Android Application for User



Used Android Studio for Mobile Application



It is directly linked to our website. Any changes there will link to our app.



There will no 3rd party involvement in the app as this haven't used any other website to get implemented.

Work Done in Last 24hrs

- 1) We bought our website on Live Domain.
- 2) Trials of Mobile Application of our portal in Android Studio using that domain.
- 3) GPS monitoring of the water carriers in php and javascript.
- 4) Introduce CAPTCHA for security purposes.
- 5) Completed Zonal and Transporter portal.
- 6) Prepared presentation for the Final Evaluation.

Technology Stack

Water Conservation and Distribution System



We tried to make our portal transparent and feasible for all type of users. Following the tools and technologies we had used in our web portal.



Front End

HTML
CSS
JavaScript
Bootstrap
AJAX
Android Studio




BackEnd

PHP
Mysql
Java



Tools

Visual Studio Code
PhpMyAdmin
Github
Sb Admin 2
Razor Pay Api
Android Studio App



Why should you be
interested in our portal?

Our Services



One Tap Water Booking

User can easily book the water by signing into the website.

Option A



Easily access to all Water Provider Services

A registration can activate an industry to our portal.

Option B



Apply for Subsidy

You can easily apply for the subsidy of rain water harvesting plant.

Option C

Business Model

1. Each institute can have storage of as much as 10 Lakh Litres.
2. If User order 4000 litres in one season , then there can be total 250 such orders.
3. If one order costs Rs.1000, so total earning of Institute will be Rs. 2,50,000.
4. Even if it costs Rs. 50000 for electric pump and all then still , it will get 2 lakh profit.
5. Initially Govt. has to invest 50% of subsidy over cost of construction of tanker, institute will spend upto 3 lakh on construction.

Cost of our Project

Services (Required for) This services are for whole STATE can be extended for Country level	Cost in Rs. (Approx)
Server - 1 blade server - Can handle 25 lakh user requests at a time - Server cost + installation cost - 500 Terabytes of storage	Approx.Rs. 4 lakh + maintenance
Along with it, one central computer	Rs. 1 lakh
Infrastructure – wires, cable, LAN connections	RS. 3 lakh

OR instead of on-campus server	
CLOUD services like AWS, Azure etc. can be used, it will reduce infrastructure cost, (ONLY if Govt. policy allows use of Cloud server instead of special server)	Rs. 6 lakh/ year
Firebase Messaging/otp service <ul style="list-style-type: none"> - Choice of subscriptions depends on traffic/ number of bookings - Handles upto 20 lakh SMS 	Rs. 10,000 /year
Google Map API	Rs. 72000 /year
Google Play store Subscription	Rs. 1500 Life-long
Razor pay	Charges 2% on each transaction (Alternative can be found)

Shortfalls of our Project

- 1) To the peoples not having access to the Internet or computer/mobile ,we have no other manual registration available. Like railway booking, there is always a admin who can book tickets from the office.
- 2) At first Government has to invest in institutes by subsidising them to help set up rainwater harvesting plant, for water collection.

Dependencies

Government policies play very essential part in execution of our project.

References



<http://wri.org/blog/2019/08/17-countries-home-one-quarter-world-population-face-extremely-high-water-stress>



<https://www.thehindu.com/news/cities/mumbai/indias-large-cities-staring-at-water-crisis/article28764312.ece>



<https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.indiatimes.com%2Fnews%2FIndia%2Fnearly-200-constituencies-face-water-scarcity-it-s-time-to-debate-water-management-in-india-364893.html&psig=AOvVaw1AX2MNOygaumLa28Dhensx&ust=1596344514056000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCPClqfGc-eoCFQAAAAAdAAAAABAJ>



https://www.nit.ac.in/pdf/Rainwater_harvesting.pdf



<https://www.rainharvesting.co.uk/case-studies/>



https://www.ocwindia.com/nearest_collection_centre



<https://startbootstrap.com/themes/sb-admin-2>

References



<https://www.techcronus.com/blog/how-to-convert-website-into-android-application/>



<https://code-boxx.com/gps-tracking-system-php-javascript/>



<https://iwaponline.com/ws/article/18/6/1946/39302/Rainwater-harvesting-as-an-alternative-for-water>

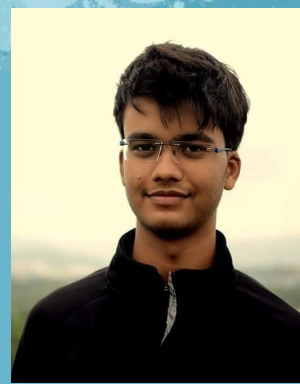


https://www.google.com/amp/s/m.economictimes.com/news/politics-and-nation/multiple-hurdles-in-rain-water-harvesting-india-inc/amp_articleshow/70152000.cms



<https://developers.google.com/recaptcha/docs/display>

TEAM HAIL_HYDRA



Anand Pawar
Role: Team Leader

Harsh Prakash
Technical Lead

Himani Bhaisare
App Developer

Saksham
Sachdeva
Frontend and
Designing

Nishit Sharma
Backend

Aman Singhal
Presentation and
WorkFlow

Major Work:
Institute Profile
Transporter Profile
OTP Verification
Presentation

Front End
GPS
OTP Verify
Presentation

Mobile App
Institute Profile
Database

User Profile
GPS Locator
Zonal Profile
Feedback

Dashboard
GPS Locator
Databases
Transporter

User Profile
Database
GPS
Presentation



Thank you