Remedial Measures for the Impact of Deviation in Natural Resources

S.BALAJI VENKATRAMAN[1], C.R.BALAMURUGAN[2]
Karpagam College of Engineering, Coimbatore, Tamilnadu, INDIA
crbalain2010@gmail.com

Abstract: - The GLOBE with all colors of Peace and happiness has the right place of living. All creatures in the world is having equal chances of living. HUMAN has the dominance of all. Making one's human life easier has become the prime motto. Towards creating an easier life, Humans make environment polluted neither concentrating on other bio-diversities nor on the ambiance. Having a better life is more important than having easier life. This module has scrapped for making aware to humans about their living. Among the various natural resources tree and water are chosen for the analysis. Main theme of the module is towards TREES and POLLUTION. This module has taken Coimbatore, Tamil Nadu, India as the study area. The Population of a specific region is selected also Population count of trees in the same selected region is taken. The demand of oxygen in atmosphere in future is calculated by comparing the intake of oxygen by human and exhale of oxygen by trees. The comparisons are done by taking the rate of increase in population and rate of decrease in trees. This module also concentrates on the water wasted in an area than the water must be consumed. The comparisons are made with the water consumed by a normal human and with the strategy (by WHO) of water consumed by normal human. This module also concentrates in the pollution made in the environment. The pollution particles present in normal clean pure air is taken as base condition. This base condition is frequently checked for deviation in the environment and analyzed. All these deviations are plotted as graph and provided in a website as cumulative results. Hoping a change, the results are manipulated for HUMANS.

Key-Words: - Trees count; Oxygen monitor; Pollution analysis; Water wastage; Website projection.

1 Introduction

The Human and the other bio-diversities in the earth have equal chances of living. Though the nature is providing human a better life, Human need their life to be even better. Leading an automated life, Technology has replaced the real features of nature and environment. A major natural factor is being vanished at the hand of science and technology. They bring causes that are more dangerous. Earthquake, Global warming, Climate change, Disappearance of bio-diversities and Species, Tsunamis are the some that come into list.

2 Tree and Environment

Making the environment cleaner is the gateway of greener globe. So, a tool is made to shape the environment using the data collected. The data are based on real factors. Example: For the count of trees, different species of trees in a region is counted. Every tree will have different rate of emitting oxygen. The difficulty of difference [4] is equalized to different ages of human who will have different rate of absorbing oxygen. The user is allowed to select the region and the result is provided in the website over an algorithm developed specially.

3 Water and Consumption

Water, a Precious natural made thing is becoming lack. Every creature in the world needs water to live. Earth holds 71% of water with it [1]. Out of whole water, 3.5% is held at Fresh water and frozen glaciers [1] and polar ice caps [1]. 69% takes higher percentage in glaciers and 31% at fresh water lakes. Consuming water has no restrictions for humans. This made the water to be shorted. Therefore, a tool is made to alert the human kind about the wasting of water. The user is allowed to select the region. The population for the selected region is considered. Along with, the strategy of water to be consumed by every human is taken into account. The deviated results are plotted with graph. The results are projected over website.

4 Pollution and Deviation

Environment is meant for living. Human and Technology makes the environment dirt. The pollution comes to the environment as Air pollution, water pollution, noise pollution and many. Co2 occupies its major role here. A Survey estimation says 5000 people die due to lack of pure air yearly. For the past year, Delhi is identified as polluted city all over the world. Therefore, a tool is developed where one can know the deviation of the atmosphere. The frequently collected pollution data is made available at the developed website where one is allowed to select the location. For the selected location, the deviation is plotted over graph and fed over website.

5 Proposed System

The proposed system collects the real time data that are being streamed lively and updated using sensors. All these data are based on the present and calculated values. The data are directly fed into the servers for web processing and displays. The web tool is purely developed using HTML, CSS, PHP, and JAVASCRIPT. For server applications, MySQL is implemented. The processed results are calculated based on the location that a user selects. The manipulated results are being displayed to the user and sent to the user as NEWSLETTER/MESSAGE.

5.1. Brief look cases

The project has taken the city, Coimbatore, Tamil Nadu, India as the study area. All the proposed criteria are being calculated using the standard values. The sensors at 35 different places of Coimbatore is providing data in a live stream through which the data is collected, analyzed and manipulated using the algorithm developed and projected over the website that makes the people to know their environment.

5.1.1 Population

A strategicall analysis reveals that the world's population is 7.5 Billion[8]. Out of which India contributes to 1.3 Billion. The analysis made has also predicted that the yearly change in percentage of population for the year 2017 as 1.18%, 0.2% higher than the last year. Also for the year 2017, the fertility rate has raised to 2.45[8]. The average population of urban cities is 4 Million. These altogether made India to the second position in world population next to china. A prediction also predicts that India will be at first position in population by the year 2020[8]. Thus, the

responsibility to humankind has made into more responsible.

The data for population is collected from the Coimbatore Corporation based on year basis; the data is made for analysis, and derived the base population of Coimbatore city according to different region.

The birth rate and death rate of India shows drastic difference. This made the tool to be important to know the environment and its impacts. The project takes the population of each region as base derivative. As the population is not stable (i.e., the birth rate changes daily), the project has added the tolerance with population.
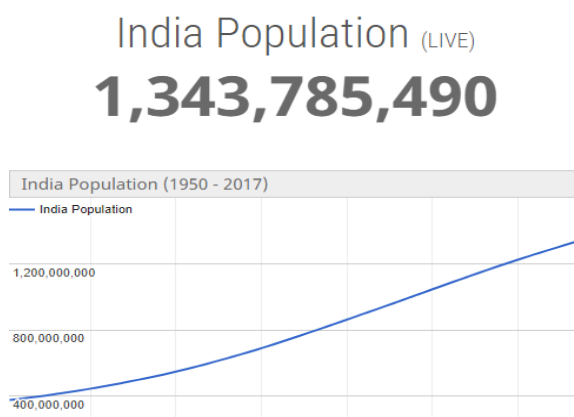

Figure. 1. India's Population 1950 – 2017

5.1.2 Tress and Importance

TREES, the source of life element, oxygen has becoming to be disappeared due to many human activities. A strategy prediction has surety that 250 different species of world occurs in India. It also reveals that there was 5.6 Trillion [5] trees before all human civilization. It predicts that total trees at the present globe as 3 Trillion[9]. At an average 15 Billion trees were cut. In addition, 5 Billion trees are being replanted.

Figure. 2. Loss of Trees and co_2 emission for the year 2017

The project has taken the count of trees from the study area and calculated the oxygen demand by comparing with population of the same selected region. The Calculations have made by standard WHO strategy.

5.1.3 Water and waste

From Research, it is proven that 2/3rd [3] of world is occupied by water. Most of which is held at Seas, Rivers, Lakes, Ponds, Streams and Estuaries. In the entire globe, there is 1400 million km3 of water. However, at controversy, 11% of human population in the globe lags for pure water. According to WHO (World Health Organization) a normal family in developing countries (India) should consume 400 gallons of water. A report predicted that 3000 [8] children all over the world suffer water. The prediction stated that the world would lag water by the year 2050. The project concentrates on the water usage and water wastage.
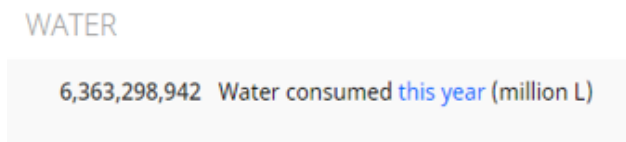
WATER

6,363,298,942 Water consumed this year (million L)

Figure. 3.Water Consumption in the year 2017

Source: Global Water Outlook to 2025 – International Food Policy Research Institute (IFPRI) and the International Water Management Institute (IWMI)
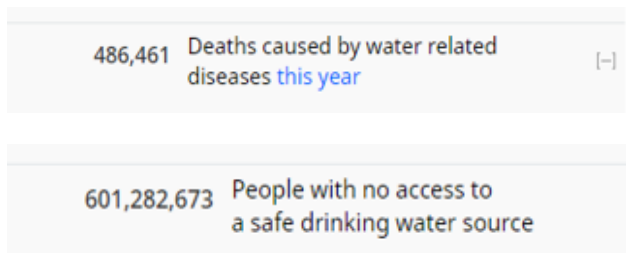
486,461 Deaths caused by water related diseases this year [–]

601,282,673 People with no access to a safe drinking water source

Figure. 4. Deaths caused by water in the year 2017

Source: Water Sanitation and Health (WSH)

5.1.4 Death and population

Pollution, a great threat all developed and developing countries has made its own threat to all people around the globe. Pollution affects 100 [7]Million people a year, a Strategy says. The studies proved that at an average of 1 Billion people lags for water. 5000[7] people die due to pollution in a year. In addition, pollution has also effects on the Bio-diversity also. This is proven by the research that pollution killed over 1 Million birds and 100 Million mammals. 46% [7] lakes have declared as unfit for fishing, drinking and other purposes. Children of the globe are being prone 40% of diseases mainly of Air. India has taken its 6th place in the largest producers of Co2 leaving China at the 1st place. A worst thing is that Delhi [6] , India is declared as the most polluted cities for the year 2016.

5.1.5 Solutions

The Solution is all at the hands of humans who share the place of living, globe, the Earth. The project has collected the data of all the disturbances of environment. The data is manipulated, and projected over the website.

6 Solutions and Projections
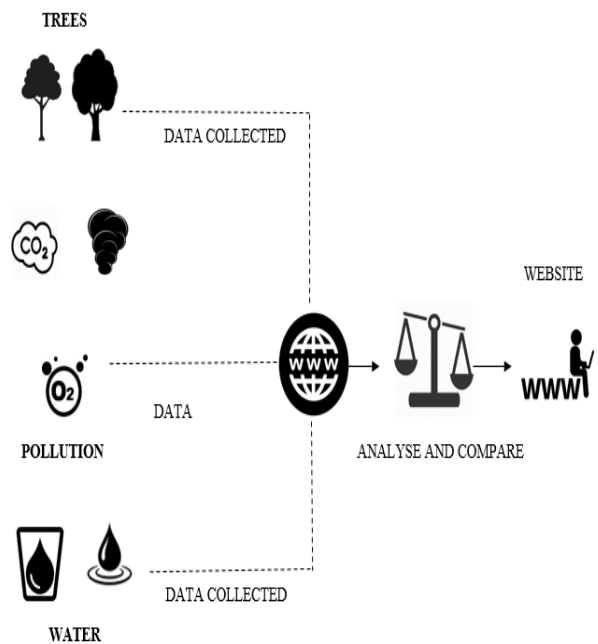
Figure. 5. Block Diagram of Data Retrieving, Manipulation, Analysis and Projection

6.1. Tress and Data

1. Analyzing data of count of trees in a region
2. Collecting data of Population in the same region
3. Analyzing the oxygen releasing capability of different trees
4. Developing an algorithm for calculating Oxygen content
5. Deriving rate of increase in population and rate of

decrease in trees

6. Comparing the strategy and providing result.

Oxygen emitted by a normal average tree-48 pounds/year. The oxygen emitted by different trees will be different at their emitting rates. The emitting rates are equalized to their different BMI [4] of the humans. People with different rates will have different metabolic rates. The varying metabolic rates can be equalled to the different emitting rates of trees.
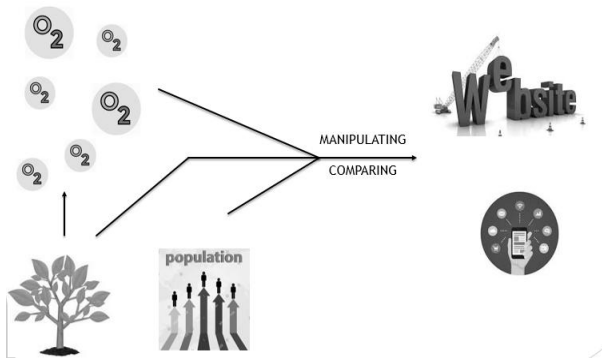

Figure. 6. Block diagram of collection of oxygen data and pollution data and manipulation

6.2. Water and Data

1. Analyzing population in an area

2. Calculating the water consumption of normal average human

3. Checking the strategy of usage of water

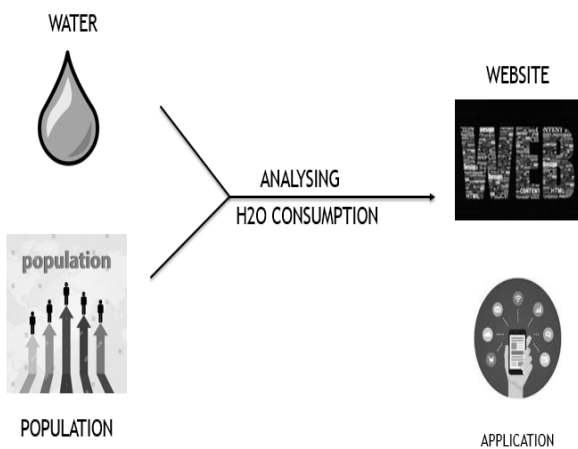4. Plotting the deviation for making awareness of water consumption

Figure. 7. Block diagram for collection of water data and pollution data and manipulation

The sources of water include natural and manmade storages. The natural sources are rain, wells and bore wells. The natural source, rain can be neglected, as it cannot be stored for many days. The other sources are corporation inlets, purified RO water. The data of wells, bore wells, corporation inlets and RO water are taken into consideration.

6.3. Pollution and Data

1. Analyzing POLLUTION in an area

2. Calculating the particles of normal average air

3. Checking the strategy of deviation in air

4. Plotting the deviation for making awareness of Pollution prevention
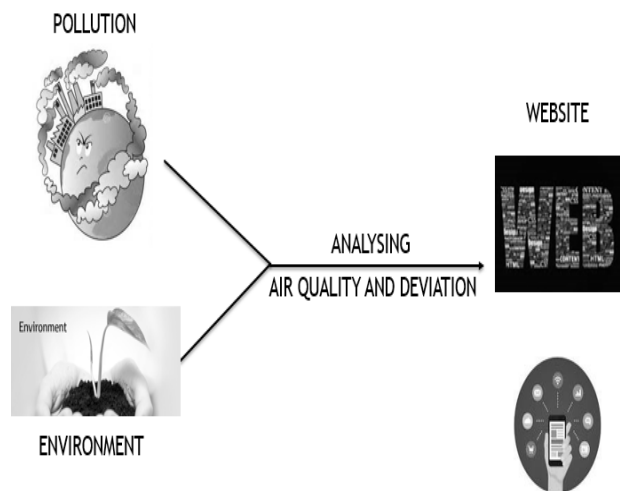
Figure. 8. Block diagram for pollution, data collection and manipulation

The pollution data of some impurities like co, co2 etc., are collected from the 35 places of study area Coimbatore and the collected data is manipulated and projected on the website.

7 Other Factors

The website is also added many advantages like comparisons between the selected regions. The website is also developed with supporter's wall that adds the names of the supporters who supports the project. The data searched/viewed is sent as the NEWSLETTER to the user. Subscribed users are sent will daily updates via standard messages. The data and the result are plotted over a graph so that the user can easily understand the deviation of environment. The lack of oxygen demand is calculated from the environment and the trees to be planted to stabilize the inequality or lag is calculated and provided at the portal. Since the data changes from time to time, the website is designed in such a way that it dynamically changes the result based on

streamed data available from the sensors at the present time.

8 Pros and Cons

8.1. Pros

1. The data collected from the environment provides the deviation of normal environment.
2. The people can be aware of their surroundings and biodiversity.
3. Importance of trees would be felt and it encourages planting.
4. Provides data for water wastage and creates awareness for the water conservation
5. Pollution data available at live streaming.

8.2. Cons

1. The data be only projected and cannot be controlled.
2. The water data can have some error and tolerance
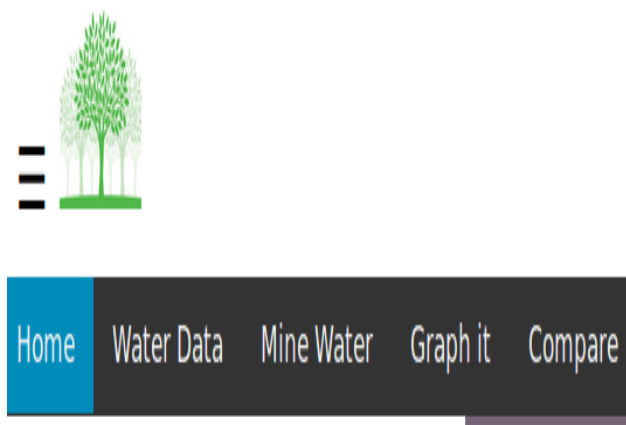
9 Programs and Codes

The project uses HTML, CSS, and JAVASCRIPT at the front end, Java and MYSQL at the back end.

9.1. Small html snippet with javascript

```
<body>
<div id="mySidenav" class="sidenav">
 <a     href="JavaScript:void(0)"     class="closebtn"
onclick="closeNav()">&times;</a>
 <a href="population.html">Population</a>
 <a href="pollution.html">Pollution</a>
 <a href="water.html">Water</a>
 <a
href="https://www.loveforsuccess.blogspot.in">Blo
g</a>
 <a href="wall.html">Supporters Wall</a>
 </div>
 <div id="main">
 <span        style="font-size:30px;cursor:pointer"
onclick="openNav()">&#9776; 
 <img        src="savetreesaveearth-img1.gif"
alt="TREES                    icon"    width=70px
height=70px;float:
right;> </span>
</div>
<Script>
function openNav () {
```

```
document.getElementById("mySidenav").style.widt
h = "250px";

document.getElementById("main").style.marginLeft
= "250px";
   document.body.style.backgroundColor        =
"rgba(0,0,0,0.4)";
}
functionCloseNav              ()              {
document.getElementById("mySidenav").style.widt
h = "0";

document.getElementById("main").style.marginLeft
= "0";
   document.body.style.backgroundColor = "white";
}
</script>
```

Figure. 9. Screenshot for trees website

9.2. Model Snippet for water

```
 <div id="mySidenav" class="sidenav">
 <a     href="javascript:void(0)"     class="closebtn"
onclick="closeNav()">&times;</a>
 <a href="trees.html" target="_blank">Trees</a>
 <ahref="population.html"
target="_blank">Population</a>
 <ahref="pollution.html"
target="_blank">Pollution</a>
 <ahref="https://www.loveforsuccess.blogspot.in"
target="_blank">Blog</a>
 <a  href="wall.html"  target="_blank">Supporters
Wall</a>
</div>
```

Fig. 10. Screen Shot For Water Website

9.3. Model Snippet for pollution with css

```
.topnav a:hover {
 background-color: #ddd;
 color: black;
}

.topnav .icon {
 display: none;
}

@media screen and (max-width: 600px) {
 .topnav a:not(:first-child) {display: none;}
 .topnav a.icon {
  float: right;
  display: block;
 }
}
```


Fig. 11. Screen shot for pollution website

10 Conclusions

In this paper, three states of environment disturbances are dealt with. The data collected over the internet will able to create an impact on trees and awareness of planting trees. All the three modules is based on the real data that are brought from the sensor values installed at different places of Coimbatore (Study area).

References:
[1] https://www.univertoday.com/65588/what-percent-of-earth-is-water/
[2] https://landarchs.com/8-amazing-facts-trees-didnt-know/
[3] https://www.universetoday.com/65588/what-percent-of-earth-is-water/
[4] https://www.quora.com/How-much-oxygen-does-a-human-breath-in-daily/answer/Suriya-Narayanan-13?__filter__&__nsrc__=2&__snid3__=1343305334
[5] https://landarchs.com/8-amazing-facts-trees-didnt-know/
[6] http://indianexpress.com/article/cities/delhi/the-most-polluted-city-in-the-world-delhi-suffers-from-a-toxic-blend-study/
[7] http://www.conserve-energy-future.com/various-pollution-facts.php
[8] http://www.worldometers.info/
[9] https://www.youtube.com/watch?v=_MYoZHp4qP8