

Final Report

Project: - Saving Traditional Water Ponds from Vasai Taluka,



By

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Bhuigaon, Vasai

About the Organization:-

“Saving Traditional Water Pond of Vasai” this project is run under Yuva Vikas Sanstha, Bhuigaon, Vasai. This organization is working from last 8 year in Vasai on Various Environment issues. This organization is registered under Mumbai Public Trust Act, 1956 and registration number is 21/1860, Maha/955/04/Thane. Water quality awareness and action is one of project of organization and focusing on to spreading awareness regarding water quality. In this project we focus on save the traditional water pond of Vasai region which is a cultural symbol of Vasai Tradition and promote Roof rain water harvesting at family level. This project is stated from June 2011. The project is focusing on to document and renews the pond culture which is symbol of community resource. Presently these ponds are on stage of Vanished from Vasai. This project started under fellowship of TATA Institute of Social Science and EdelGive Foundation for two year (June2011- May13).

About the project theme

Conserving Traditional Water Ponds – Recharging Aquifer

This situation calls for large scale conservation efforts to protect the aquifer as well as preserve the only drinking water source in the region. However there has been absolutely no thought and efforts evident towards this issue. However, Recharging aquifer through traditional water ponds is one such avenue and the central theme of the project. Traditional Water Ponds (hereafter TWPs) is an old water-system existing in the Vasai region. TWPs are commonly known as known as “Bavkhal or Kavkhal”. This system looks like an unconstructed well. Mostly these are owned by families, and the ownership pattern shows that TWPs are at present are divided among 5 to 35 families as they now have become an ancestral resource. In past, this system was serving for the irrigation need of farmers as well as a water resource for domestic purposes.



The importance of the TWPs is that TWPs too tap the unconfined aquifer and thus can potentially serve as important recharge zones for the aquifer and result in increasing the

groundwater table, if conserved and used properly. However, there are immense challenges in establishing the system water usage based on the TWPs.

Firstly, there is no exact account of the TWPs in terms of their numbers, physical status, usage status as well as geographical density. According to a survey conducted by Taluka level office of Vasai (?), in 2009 479 TWPs have been registered in 27 Gram Panchayats. However, there are ample chances that the actual number of the TWPs would be far more than the records in the government offices. In an attempt to cross-check, Yuva Vikas Santha, Bhuigaon, conducted survey of TWPs in two villages covered in the government survey and found more number of Traditional water ponds exist, for example in Bhuigaon Village the number was 39 in place of 15.

In fact, there is a need to go beyond just listing of the TWPs, as usage data is far more important than mere numbers to understand the status of groundwater availability and usage in the region. AFPRO report, recommends studying the change in quality of ground water through periodic monitoring. The monitoring can be done twice (pre-monsoon and post- monsoon) in a year. Also considering the limited fresh water reserve in the region may be pertinent the to conduct a detailed study, so as to estimate the optimum quantum of fresh water available for withdrawal without affecting the balance of interface between the fresh and saline water.

Another issue with the TPWs is most of them today are in a dire state. Under the process of urbanization and its impact on the villages, TWPs are turning out to be most preferred community garbage dumping areas. This is not just reducing its potential as water sources as well as water recharge zones but also creating severe groundwater-quality issue as including the bacterial contamination chemical contamination. As per the 2008 survey by the NGO ,Yuva Vikas Santha 48 ponds were found in village-Bhuigaon, however in 2011 the number has been reduced to 39 ponds. Within the 2 years period, 9 traditional water ponds are vanished and 6 ponds are in very critical situation.

Till date we are success to save 5 traditional water ponds from Vasai region with help of owners and community.

Project stages and work done

Saving traditional water system is divided in three stages. The stages are as a follows.....

- **Stage- I**

Survey of Bhuigaon Village Traditional water ponds

Objective:-

To get information about number of Traditional water pond exist Bhuigaon Village.

To collect information about the situation of Traditional water ponds of Bhuigaon Village

To document all the Traditional water pond of Bhuigaon Village.

Activities

- **Meeting with two Traditional water ponds owners regarding cleaning and maintain the pond.**

Details of Owners:-

1) Owners of 1st Traditional pond

- | | |
|--------------------|--------------------|
| 1) Sanjav D. Marti | 2) Kustin Marti |
| 3) James Marti | 4) Jorj Marti |
| 5) Nelson Marti | 6) Sanjav J. Marti |
| 7) Vijay Dabre | 8) Shovrop Dabre |
| 9) Domnic Dabre | 10) Sanjav Dabre |
| 11) Everest Dabre | 12) Peter Dabre |
| 13) Tomas Dabre | 14) Frazer Dabre |
| 15) Raju Dabre | 16) Milend Dabre |
| 17) Mozes Dabre | 18) Novel Marti |
| 19) Vilas Carvalho | 20) Sunil Carvalho |
| 21) Sanju Carvalho | 22) Rajina Dabre |

23) James Marti

24) Nilesh Dabre

25) Frezan Dabre

Owners of 2nd Pond

1) Everest Dabre

2) Peter Dabre

3) Tomas Dabre

4) Frazer Dabre

5) Raju Dabre

6) Milend Dabre

7) Mozes Dabre

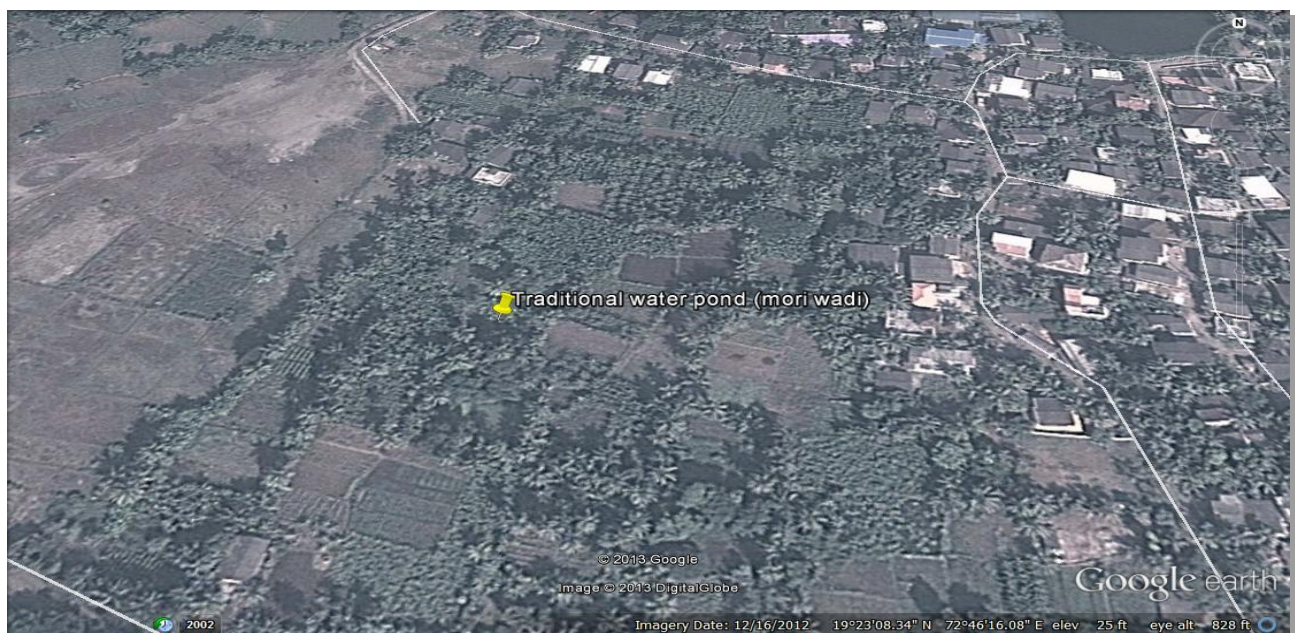
*(Green Colour presenting the members who ready to clean pond)

About the Pond

About the Traditional Water Pond:-

The Traditional water pond is situated in agriculture area. The pond location on latitude north 19°23,14.6 and longitude E- 72°46,24.7. The name of area is Mori wadi. This pond is belonging to Dabre families and names of owners are Everest Dabre, Macanzy Dabre, Domnic Dabre, Sanjav Dabre, Edwin Dabre, Shavar Dabre and Vijay Dabre. This Traditional pond is use for irrigation purpose. Total area cover by this pond is around 17meter. After March no water in pond.

Pond location and Community (Pond location in Yellow mark)



Use of traditional pond:-

This Pond water is use for irrigation purpose. Total 3 Acer of agricultural land irrigated by this traditional water pond. This pond is working as storage or harvest pond. Because of this pond farmers were able to take 3 vegetables cultivation. Major Vegetable were banana, chill and Chavli. This pond is playing major role to give water for irrigation and collect extra water from farm during monsoon. This pond is drinking water sources for birds during summer time. This pond is helping to maintain ecological cycle of nature.

Risk Factors

- 1) Present young generation is interest in doing non-agricultural occupation. So owners are not interested to clean and conserve this pond.**
- 2) This pond is collective private ownership property. So most of owners are not ready clean and conserve this pond.**
- 3) The land definition is now changing. Now agriculture land is sold to other people who are not interested to conserve pond because they are look on land for income or sold for housing purpose.**
- 4) Scarcity of land, making people to move in agriculture land and it is disturbing catchment area of pond. So pond gets minimum water to harvest and recharge aquifer.**

Meeting Minutes

This is meeting for cleaning traditional water pond. In this meeting, total 25 members were presented. They have two traditional water ponds ownership. On one traditional water pond have ownership of total 25 families and another have 7 families ownership on pond.

This meeting was conducted at one of the owner home. In meeting, I explained about importance of Traditional water pond, and it relation to ground water recharging and cleaning traditional water pond it will help to increase the harvest more water in pond.

After this discuss, owner were discuss about their contribution for cleaning pond. In discuss, we come on point that 25% contribution from owners and 75% from project. Also owners have to done work, like while cleaning work to present at place and guide to workers.

7 members from group who has ownership on traditional pond, they are ready to give their contribution. But another pond which has 25 families ownership, only 5 families are ready to give contribution. Other members not agree to give contribution.

Also after cleaning this pond, they have responsibility to do regular meeting and save ecological system of pond.

Still date, we clean one traditional water pond from village.

Observation:- In meeting, I observed that all owners were presented. In meeting, when we started discuss about cleanness of traditional water pond, some of Traditional water pond owners were not ready for give contribution. They gave reason that we were not doing agriculture so they will not give contribution for cleanness.

So out of 2, 1 traditional water ponds owners were ready to give contribution. They were ready to give 25percent amount of total cost. Finally out of 2 traditional ponds, we were agreed to maintain one traditional pond.

Action Plan

In Vasai Taluka, around more than 500 traditional water ponds are exist, but presently high requirement of land, changing occupation of Vasai community (preference to non-agriculture occupation as career) which is creating problem for survival of Traditional water pond. To come out of this problem, I feel first **need to do survey of all Traditional water ponds from Vasai area and out of these we need to identify important traditional water pond which is recharging groundwater (unconfined aquifer) and maintain ecological balance.**

- **Survey of Bhuigaon Village Traditional Ponds.**

In the survey, we focused on to collect information about the existing number of Traditional water ponds of Bhuigaon Village. While collecting data, we found total 39 Traditional water ponds in Bhuigaon village.

In this survey, we collected data of Traditional pond, latitude and longitude of pond, trees near pond and land mark near Traditional pond.

Observation:- Village most of Traditional water ponds have Hindu and Catholic population ownership. These ponds ownership is divided to 2 to 25 families. The major use of Traditional water pond is for irrigation purpose but it is also recharging zone for ground water. Traditional water pond is recharging upper or unconfined aquifer of Bhuigaon village.

While doing survey of Traditional water pond, we found that traditional ponds which are exist in agriculture land; they are in good condition compare to residential area ponds. Traditional pond which is existing in residential area is use for dustbin and toilet drainage outlet purpose.

Traditional ponds in residential area, we found very less or no water, compare to ponds found in agriculture land because the catchment area of traditional water pond is disturb in residential area.

Now in Bhuigaon village around, 90 percent population is working Mumbai. So the population of below 45 year is not doing agriculture, which is also reason for create vulnerability for Traditional water pond system.

- **Participated in Groundwater Management Training, organized by People Science Institute, Dehradun**

This training is total 12 days (from 14th June to 27th June). The main objective of training is to create awareness about Water quality aspect reference to Spring Management. Total 19 participates from various parts of India are attended this training. This training is divided in three major parts, Geo-hydrology, field visits and Water quality testing.

In Geo-Hydrology Part cover rock, its type and porosity of rock. Also we visited one of hill area of dehradun and look at rock type, fractures and bedding type of rock. In visit we found sandstone and igneous rock. We also learn about aquifer, type of aquifer and role of aquifer regarding groundwater.

In water quality testing, we told to collect to sample from different sources like municipal water supply, bore well, drainage water, treated water. Every sample following parameters we tested pH, Hardness, Fluoride, Nitride and fecal coliform. After testing this samples, result show that drainage water has bacterial contamination. Bore well water has fluoride content.

In spring management, we got information about type of spring. We visited one village to understanding the spring management work with people participation.

Note:- Details of Training attached.

- **Participated in “Saving Water Exhibition and Abhiyan” at Vasai.**

This programme was organized by Sadbhavna Foundation and Rotary Club of Vasai. In the programme, student from different collages of Vasai presented their project.

The aim of this programme is to create awareness about Water situation of Vasai. Around 700 people were visited this exhibition.

In this programme, around 200 people were visited to my stall. In programme, I gave information about water situation of Vasai, water quality issues to people. This was around 4 hrs programme.

For this programme, two youths from my village helped me. They were explaining people about water issue. They told me that next time in same programme they will give information to people.

I had nice experience in this programme.

Observation:- In programme, local college students presented a their project on Water conservation and Harvesting. While explaining the information, I found people need more information about soil, rock type and impact on water quality.

In programme most of question ask about water purifier system like cost effective, use of waste water. Most of crowd come for exhibition are from City area and they ask more question regarding water quality treatment like water purifier, water quality issues.

- **Stage –II**

**Survey and creating map of Nandakhal Village Traditional water ponds
Awareness program for 4000 people on water quality issues of Vasai region
Volunteers trainings regarding water quality testing**

Objective:-

To collect information about Nandakhal Village Traditional water ponds and their situation.

To create awareness about the water quality situation of Vasai region and importance of Traditional water ponds regarding decreasing salinity issues.

Activities

1. **Nandakhal Traditional water pond survey**
2. **Meeting with Traditional water ponds owners regarding cleaning and maintain the pond from different villages of Vasai.**
3. **Session in St. Gonsalo Graciya College, Vasai with Third year Bachelor in Art students on “Importance of Vasai water situation and importance of Traditional water system”.**
4. **Volunteers training programme on water awareness and quality testing**
5. **Interview in “Suvarta” magazine annual programme about Traditional water**
6. **Water quality testing in Nanbhat village.**
7. **Presented paper on “Changing life style of people and impact on Vasai water resource” in International conference organized by College of Social Work, Nirmala Niketan on 19-21 December, 2013.**
8. **Water quality awareness session with women group at Virar.**

- **Nandakhal Traditional water pond survey**

About Nandakhal Village:- Nandakhal is a one of the big Village in Vasai Taluka in Thane District of Maharashtra State, India. It comes under Kofrad Panchayath. It belongs to Konkan region. It belongs to Konkan Division. It is located 19 KM towards North from District head quarters Thane. 47 KM from State capital Mumbai. Nandakhal is surrounded by Nalasopara Taluka towards North (5km), Virar Taluka towards North (9km), Thane Taluka towards South (18km) , Bhiwandi Taluka towards East (29km).

Population:- The total population of the village is around 8000. Catholic, Hindu, OBC (Bhandari community) and ST (Waril community) populations are resident in this village. The Catholic population is majority in number.

Contact person from Community:- Mr. Sunil D'mello from same village, contacted me on facebook regarding conducting survey of Nandakhal village traditional water ponds. During this survey, Mr. Jameson D'mello and Mr. Roger Rodrigues also helped me to collect data of Traditional water pond from same village.

Activity details:- In the survey, we focused on to collect information about the existing number of Traditional water ponds of Nandakhal Village. While collecting data, we found total 55 Traditional water ponds in Nandakhal village.

In this survey, we collected data of Traditional ponds photos, owners name, latitude and longitude of pond, trees near pond and land mark near Traditional pond.

Observation:-

In Nandakhal village, we found out of 27 zones, 18 zones have traditional water ponds. A zone called Bavkhal (local name of Traditional water pond) is situated on traditional water pond.

In Nandakhal village, some of traditional water ponds with well which is using for agriculture purpose. In this situation, traditional water pond is acting as recharging and harvesting source of well. (See in picture)



Ownership pattern:-

Traditional water pond is private collective ownership resource. In some place this ownership shares between different religion and cast group.

In Nandakhal village, 6 traditional water ponds have Hindu families' ownership. Catholic families have ownership on 40 traditional water ponds. 6 traditional water ponds have Hindu and Catholic families' ownership. During this survey, we don't get information of 3 traditional water ponds ownership.

Village most of Traditional water ponds have Hindu, Catholic and OBC's population ownership. These ponds ownership is divided to 2 to 25 families. The major use of Traditional water pond is for irrigation purpose but it is also recharging zone for ground water. Traditional water pond is recharging upper or unconfined aquifer of Nandakhal village.

Trees near traditional water ponds

During this survey we found following trees near traditional water ponds in Nandakhal village, Coconut, Bamboo, Portia, Barringtonia Acutangula, Mango, Tamarind, fish Tail, Ved, Peepal, Karnja, Supari, Jackfruit and Guava.

Coconut, Portia, Tamarind, Barringtonia Acutangula and Mango, these traditional trees were only existed near traditional water ponds.

During this survey, we found total 21 traditional water ponds were using as Community dustbin place. Traditional water ponds from residential and agricultural area were both are using for garbage purpose. Traditional water ponds which were situated in residential area have more plastic garbage.

Analysis:-

As I already mention in first report that the risks factor to saving traditional water ponds, which are same in Nandakhal village. But in Nandakhal village I observed that now people started building houses in agriculture land. Now traditional water ponds are using in residential area as to dump the building debris.

Also I feel that there is need for doing water quality testing survey of Nandakhal village which will help us to understand the different zone of ground water and according that we will give priority to saving Traditional water ponds which come under recharging zone.

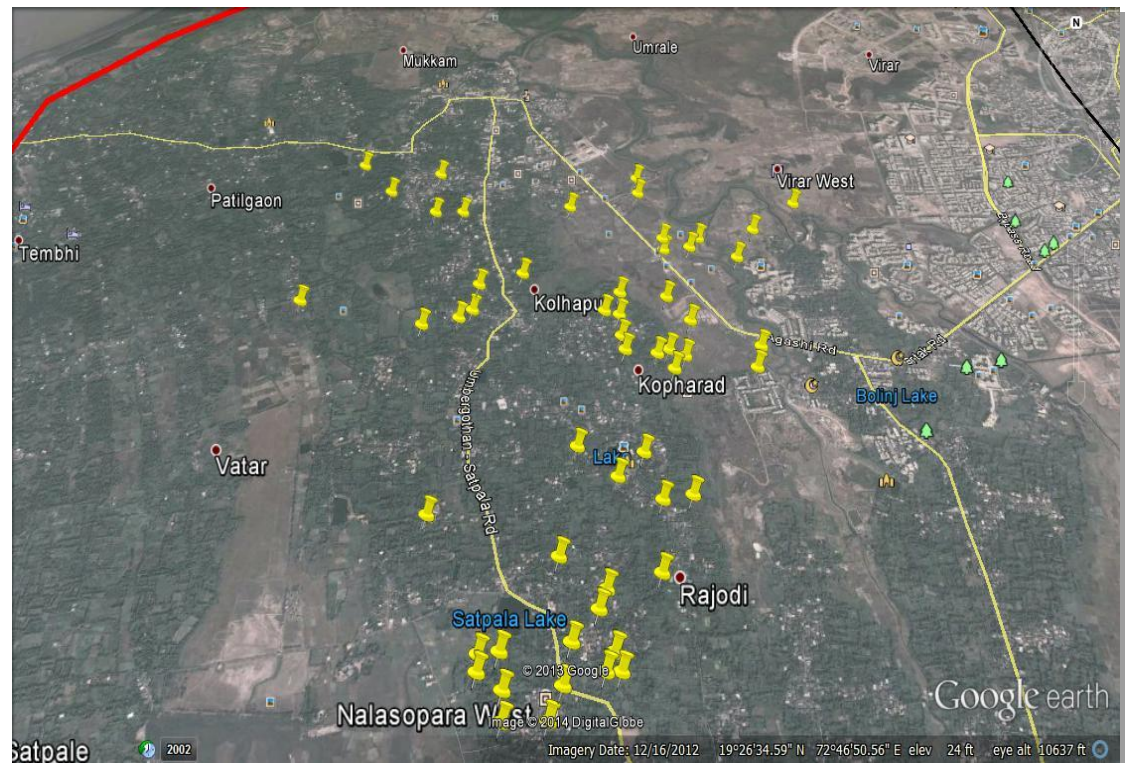
Nandakhal Village Traditional water map:-

After doing survey with the help of community people, collected data put on the Google earth map. The analysis of the survey already share in above.

About the Map:-

- Yellow pointer is presenting a location of traditional water ponds of Nandakhal village.
- Red line is presenting the border of Vasai region.
- The map latitude and longitude is between North 19°26, 34.59' and East 72° 46, 50.56' and elevation is 24ft. Eye location is 10637ft according to Google Earth map.

Note:- Some error regarding traditional water pond location because of difference between latitude and longitude location of Google Earth and GPS (Global Poisons system) data.



- **Meeting with Traditional water ponds owners regarding cleaning and maintain the pond from different villages of Vasai.**

We had meeting with different village in Vasai with Owners of Traditional water ponds regarding to cleanliness and saving traditional water ponds. We had meeting with owners from following villages from Vasai region such as Agashi, Nandakhal, Sandor, Bhuigaon and Gomes.

Contact person from respective villages contact organization for saving their traditional water ponds. After contact organization, social worker visited the place and collected data with contact person. In data social worker collected data of Latitude and longitude of pond, photos, total area width and length, owners and risks factors for traditional water pond.

Details of Visit of traditional water pond owners

Agashi Village:-

In this visit, the traditional water pond has community ownership. The Traditional water pond is presently using for community garbage place. In north side of pond is agriculture land, East side residential area of community, West side community play ground which was before a traditional water pond and South side the community well which is using for domestic purpose. Borewell is next to community well. Total 4 pumps were observed during the visit. The total capacities of pumps were 4hp.

The traditional water pond ownership is belonging to Lopes family. So now contact person is planning to have meeting with community and owners regarding clean and save traditional water pond.

Nandakhal Village

Before visit to traditional water pond, we had meeting with contact person, community leader and traditional water pond owners of Nandakhal village. In the meeting they were ready to clean and save 4 traditional water ponds from community.

In the visit, we done survey of 4 traditional water ponds and all were using for irrigation purpose. Out of 4 ponds, 2 were using as a garbage place for community. All four ponds have well which water is using for irrigation purpose.

After the 2nd and 3rd meeting, 3 traditional water pond owners were not interested to clean traditional water pond because of lack of support from other ownership members.

Photo of Traditional pond owners were ready to clean this pond



Gomes Village

Gomes village youth group members contact me regarding saving their traditional water pond. After the contact from community member, I visited to traditional water pond and collected data. South side of Traditional water pond is residential area. Community drinking water well is located on North west side of pond. South east side of pond is using for garbage purpose and North east side is agricultural area especially banana tree. Static water level of the well and pond was same as 3m from ground during visit time.

We also done a water quality testing of well and result was found that TDS of well 0.00000179 ppm, pH was 8. 3 pump were on well and the total capacity of pumps were 3hp.



Bhuigaon Village

In Bhuigaon village 2 traditional water ponds owners were approach to organization to cleaning the traditional water pond. These traditional water ponds were in agricultural land and using for irrigation purpose. Out of 2 traditional water ponds, 1 was dry after March.

Analysis:- Traditional water ponds which will be going to clean, most of them are using for irrigation purpose. Also I observed that now Traditional water ponds from agriculture area are now expose to using for dustbin purpose by owners and after community.

- **Session in St. Gonsalo Graciya College, Vasai with Third year Bachlor in Art students on “Importance of Vasai water situation and importance of Traditional water system”.**

St. Gonsalo Graciya College is senior college of Vasai area. Prof. Mali from Rural development department called me to take session with third year student of Bachelor in Arts. Total 75 students were present for session and time given for session was 50 minutes.

In first 7 min we had interactive session with student regarding their understanding of Water. In this part, student gave information about water cycle, water source, water use and water issues. After this session, I explained

about water situation of Vasai region. In this part I focused on geographical area of Vasai, population, geological conditions.

After that we discuss about water source in Vasai. The water sources were divided in two parts, drinking purpose and domestic purpose. This session students gave information about lakes, Traditional water ponds, community well, bore well and well. This was very interactive session.

After we were discuss about the water quality issue of Vasai. According to students that lack of drinkable water issue was major issue. When go more depth to understanding lack of drinkable water issue, students stared talking about salinity and bacterial contamination. On these two points, I explained them about hydro-geological conditions and salinity. Also I explained about reason of bacterial contamination.

In last session, we had discussion on saving traditional water system. Some of students were from urban area, so they share their water problems. We discussed about doing roof rain water harvesting in their building area and also reuse of water.

In feedback session students replied that they got new information about groundwater. Also they told that in our books just giving information about surface water cycle and water source. But now they get information about ground water.

Volunteers training programme on water awareness and quality testing

Volunteers training programme activity were conducted in different stage of project. In initial stage, organization had training with volunteers from Bhuigaon village who helped during the process of collecting data regarding Traditional water pond survey. Total 13 volunteers were presented for this training. In this training, Sachin Marti has done a presentation on bhuigaon village water quality situation. After the presentation had discussion on volunteers question regarding water, it's quality and issues and relation to traditional water pond. We had 45 min discussion on above topic. After meeting we had water quality testing of Bhuigaon village water samples. Sachin Marti gave demo of water quality testing and explains about meaning of pH, TDS.

This training was around 1hr.

Outdoor training

Also we had water quality training with 5 community volunteers and student from Farguson Collage, Pune. In this training, following points were covered.

- **Well inventory test**
- **GPS reading**
- **TDS, pH and Salinity parameter testing**
- **Coding of well**

This Training was outdoor training, so we select one sample well from community and do water quality testing of same well. In this training, volunteers do the well inventory test, GPS reading, Water quality testing, Coding the well and putting this data on Form which was developed by ACWADAM organization from Pune. Till date total 7 volunteers from Bhuigaon village and 5 students from Farguson Collage get outdoor water quality testing training.

Photos of Training's....

1) Volunteers training on water quality testing (In-house training)



2) Outdoor training with Village Youth on Water quality testing



3) Outdoor Training with Farguson College student, Pune



- **Interview in “Suvarta” magazine annual programme about Traditional water**

“Suvarta” is one of popular magazine of Vasai. This magazine is started by Catholic priest. In initial years, this magazine was using for spreading words of catholic regions, but after some years this magazine started writing about social issues from Vasai region. During “ Vasai Bachav Andolan and Water movement” this magazine played key role to create awareness about development plan and water issue of Vasai. Till date, this magazine was published 703 editions. This magazine reached upto 1 lac people from Vasai, Mumbai and outside of India.

On the Occasion of Annual programme of Magazine, I got chance to share my work about saving traditional water system of Vasai. I got total 25 min to share by view about Traditional water system. Mr. D’mello and Ms. Salsa conducted interview session.

This interview was about understanding the Traditional water system. The interview programme goes to 40 min.

After interview, the editor of the magazine told me that they were publishing some interview in November edition. (Attached with report)

The link of news come in Marathi paper Maharashtra times.
<http://mahashtratimes.indiatimes.com/maharashtra/thane-kokan/---/articleshow/23479207.cms>



- **Water quality testing in Nanbhat village.**

Terasa D'souza, from Nanbhat village near Virar Taluka, contact organization regarding water quality issues of her home drinking well. When I visited to the place, I found that well water was blackish colour and it stinking.

Mrs. D'souza told me the history of the problem. Last five days, they were drinking water from neighbor wells. While checking the well surrounding, I found that septic tank of house and the well distance hardly 3m. When I inquire about septic tank, family member give information that from last 5-6 years they didn't clean the tank. The Tank is more than 20 years old. After this information, I observed the tank. The tank was broken from one side, the outlet of tank which was just 2m from well.

In first visit, I collected the sample of water for bacterial contamination. While doing a fecal coli form test, after 24 hrs the sample color was light yellow. It showed that fecal coli form was available in the well sample water.

After test result, I inform the owners about result and we decided to clean the well and also important to do repairing work on septic tank. While cleaning the well we use same water for field and after cleaning well put 3 spoons of chlorine powder in one basket of water and same water dilute in well.

After 2 days, again I visit to place and observed the well water condition. Now well water was good and drinkable. The check the water quality, pH showed 8 of the well sample.

I suggest to the owners of house about repairing the septic tank and don't put outlet of tank in open.

Analysis:- This is one of example of bacterial contamination, but now and coming year this problem will be common in Vasai region, because lack of land. The distance between drinking well and septic tank should be 100ft, but now is Vasai village's area this distance come 6ft to 40ft and the outlet of the tank is open near drinking well. So it is high risk for contamination.

In some place, we observed that septic tank outlet going to directly to gutter which is open and create problem of mesquites. Most of drinking wells in Vasai region which are near to gutter, so it will vulnerable for bacterial contamination.

Another problem is the design of septic tank. The septic tank is normally use for manual waste, but in Vasai region, its share to bathroom. So many times the septic tank will full by water from bathroom. So I feel there should be need to talk about septic tank design.

- **Presented paper on “Changing life style of people and impact on Vasai water resource” in International conference organized by College of Social Work, Nirmala Niketan on 19-21 December, 2013.**

College of Social Work, Nirmala Niketan, organized the international conference on Water on 19 – 21 December, 2013.

This conference was held in Mumbai. People from various countries and different parts of India were participated in this conference. This conference was for 3 days.

The conference activities were divided in 3 major parts, such as morning session with key note speakers. After keynote speakers, after and before lunch plenary sessions were conducted and last the parallel sessions were conducted.

These sessions were divided in 3 major parts, Human Rights, Politics and dynamics of Water and people centered intervention.

Dr. Rajendra singh was keynote speaker of the conference on first day. In he spoke about the Traditional knowledge about conservation and harvesting of water which is applicable in present situation. On first day we have more discussion on understanding the water situation in different part of India and other countries.

After key speaker note, plenary session started. In this session, speaker talked about their organization work on water in different communities and country. Mr. Tobias S. from Waterlex organization from Geneva, talks about their organization work in South Africa.

After this session, another plenary session began. In this session, Fr. Franics B. shares his experience during “Pani Andolan”. In this session, 3 speakers from various part of India share their experience of social movement for water.

On second day, we stared session with review of first day session. After this review, we had panel discussion on people intervention on water conservation. In this panel, Medha Patkar talks about term of “Public- Private Partnership (PPP)”. In this session, now government was slowly- slowly taking back step from his responsibilities to fulfilling people basic need. In PPP term, there was no involvement from community in problem solving process.

After the lunch, in parallel session I presented a paper in People centered intervention panel on title of “Changing life style of people and impact on water resource from Vasai region”. I presented paper in community intervention panel. Dr. Robert C. from Canada was presented paper on the social action and Ms. Pranietha M., present a paper on her research study about water and community participation.

After our presentation, we had discussion on the presentation. During this discussion, we had come with some solution about to creating water literacy among the social work student and then at community level. Also we give more focus on networking with organizations which are working on field of water and environment conservation.



Analysis:- It was wonderful and learning experience for me to share your ideas in front of like-minded people. This conference helps me to understand the different types of approaches to work on water. The experts from various parts of India and outside of India help me to talk with them to understand their concept and action while working on water issues in their respective area.

In this conference, people from other countries, while preparing an action plan for a social problem, they give more focus on human resource, networking and communication map. While in India we give more focus on task and community.

- **Water quality awareness session with women group at Virar.**

Mrs. Nutan Patil, from Virar residential, contacted me to take a session with women from their building on “Saving water”.

Total 75 women were present for this program. Mrs. Patil, did the introduction part. After introduction, I started the session with an activity about every woman has to share her daily household water need. During this activity, I observed many women don't have information of water needs for washing clothes because most of them are now using washing machines. On an average every woman shares that their daily water need was around 130 to 150 liters per day per household. They also shared about the irregularity of water supply.

During month of April and May, they were face water shortage in twice in week.

After this interactive session, I explained them about presented water situation of Vasai region. After that we have discussion on saving water. While discussing on this point women come with idea like cooking waste water will used for garden trees. Water purifier waste water will used for house cleaning activity. In next annual meeting of building, they will be disusing about building roof rain water harvesting plan.

After this wonderful session with close session with saving and reuse more water.

Analysis:- This is my first session with urban population. While taking session with women's most of them were house wife and they share their daily problem regarding collecting water from pipeline. The major issue for water to them is water quality and shortage of water supply.

Roof rain water harvesting and reuse of water are some of the option which will help them to reduce their water shortage problem.

- **Stage – III**

Promoting Roof rainwater harvesting
Meeting with traditional water pond owners
Submission of final report

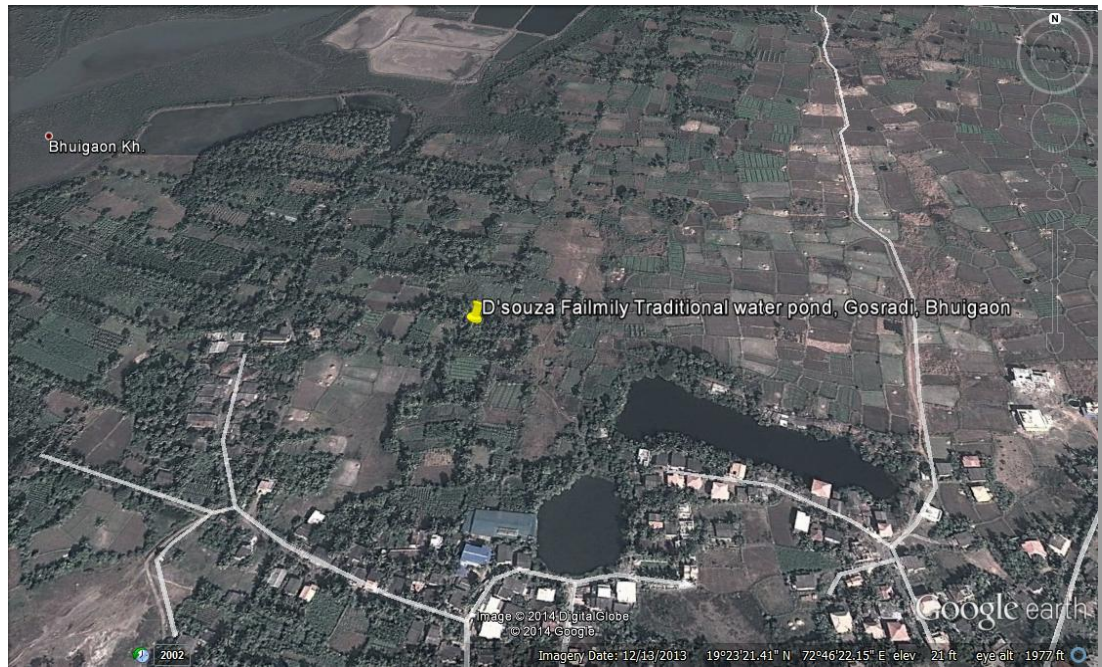
Activities

- 1. Meeting with 3 traditional water pond owners from different village of Vasai**

Bhuigaon Village

In Bhuigaon village, organization cleans 2 traditional water ponds with help of owners in final stage. In this project total 3 traditional water ponds were clean from Bhuigaon village.

D'souza family traditional water pond



(Yellow pointer is presenting the location of D'souza family traditional water pond)

About the ponds

This pond is belonging with D'souza family from Bhuigaon village. Total 4 families have ownership on this pond. This pond is located in agriculture land which is end of village and near the Kumbar Lake. Bhandari community (OBC community) is resident near this pond. The uses of this pond for irrigation purpose and because of this pond D'souza family members were able to do whole year farming of banana, taro leaves and marigold flowers. Total 4 trees of *Barringtonia acutangula* cover the whole area of traditional water pond.

About Owners

Total 4 families have ownership on this pond. Out of 4 owners 3 were activity doing the farming activity.

- 1) Santosh D'souza
- 2) Milind D'souza
- 3) Farnceis D'souza
- 4) Vijay D'souza

Mr. Milind D'souza is not doing farming from last many years, so he was not favor to cleaning pond.

Process:-

Mr. Santhosh D'souza, one of the owner contact organization for cleaning their traditional water ponds in month of December. After this, with Mr. Santhosh we had visit on this pond. During this visit, he told that this pond was not desilt from last 20 years but still giving good quantity of water for agriculture activity. After this visit, we conform that we will go for desiltation process of pond in month of March, because lot of water was available in pond. This pond is also tapping unconfined aquifer and a recharging zone for near constructed well.

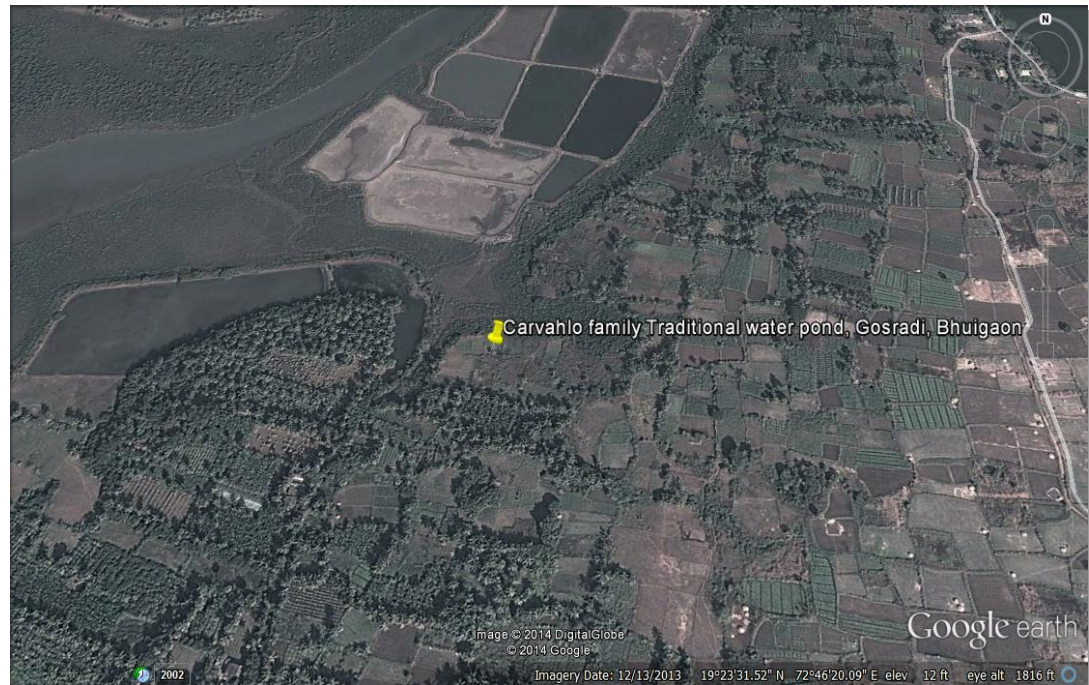
After visit, another owner of pond Mr. Franics D'souza, contact and he also favor of cleaning pond. He was also ready to give his contribution. Mr. Vijay was not ready to give his contribution for desilation of pond.

In month of February, we contact many desiltation workers, but till month of April they were busy. After that in month of May, local desiltation worker contact us for cleaning this ponds. So we started work in Month of May. Total 4 days were desalitation work going on.

Image after desalitation of traditional pond



Carvalho Family traditional pond



(Yellow pointer is presenting the location of Carvalho family traditional water pond)

About the pond

This pond is located in end of village border. Near this pond lot of prawns farming activity is going on. This pond is belonging to Carvalho family from Bhuigaon village. Total 2 families have ownership on this pond, but Mr. Wilson Carvalho is interest to clean and maintain the pond. After April month no water is available in pond. This pond is fulfilling the need of small irrigation farm. After this farm, most of land covers by mangroves and Kalamb creek.

Process:-

Mr. Wilson contact organization for desiltation of his pond in middle of May month. He contacts organization during the desilation of D'souza family pond. But that time, desiltation workers were already given commitment to another person for digging the pond.

After visit with Mr. Carvalho, we also met other owners of the pond. The owners were not interested to clean this pond but they told us that Mr. Wilson can go ahead to clean this pond. We also found another source as JCB for cleaning pond. We contact total 10 JCB, but only one was ready to come but he was ready to come after a week.

After one week, he came to place he clean the pond. Total 2 days were gone for deslitation of this pond.

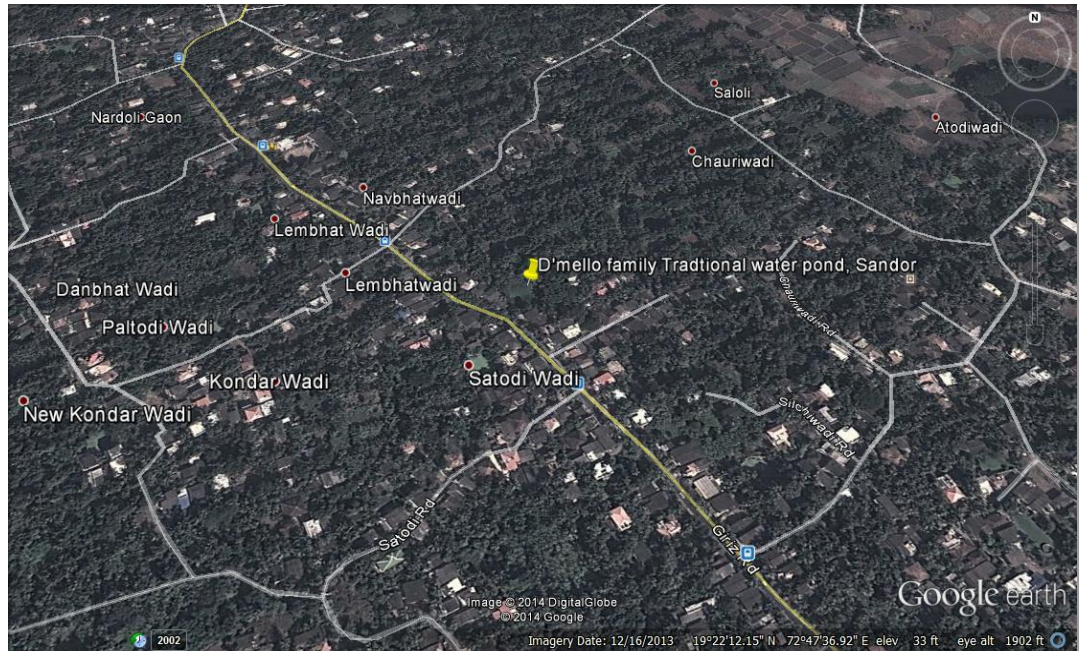
Images of pond after desilation



Sandor Village

This is one of the village which exposes for more urbanization. According to people from Vasai, this village has more number of traditional water ponds another other 29 villages from Vasai-Virar Municipal Corporation.

D'mello family traditional water pond



About the Pond

This pond is located in border of both Sandor and Girij villages. This pond ownership is belonging to 10 families. This pond is between agricultural and residential area. The pond also has constructed dug well which is using for irrigation purpose.

During the visit to pond, we found Portia Tree, Barringtonia acutangula, Fish-tail palm and Coconut trees. Also we found, lot of debris and plastic garbage near pond. Agriculture activities were also going near pond like banana trees.



Process:-

Mr. Lesile from Sandor, contacted me in end of December month regarding awareness program in his community on Traditional water system and water quality. After month, Fr. Franics D'britto called me and discuss about project work. Fr. D'britto spoke with Mr. Laslie regarding his family Traditional water pond.

After week Mr. Lasile discussed with his family members regarding desalitation of the pond and they all were ready for this activity. After the conformation from owners we had visit to pond. After a meeting with owners, water in pond, availability of JCB and pump, according to that we conform a date on end of May month.

In desiltation process, first 1 and half days, JCB was able to desilt some of pond area but they have facing problem to desilt in centre area of pond. So after 2nd half day we stopped work. After a week, Mr. Lasile, found a adivasi group who were ready to clean the pond. Adivasi group were spend total 5 days to clean the pond. Within these 4 days they were also able to clean 50 percent of pond.

Images of during cleanness of pond



Analysis:-

- 1) Contact person (Owners) role very important to cleanness and protect traditional water pond.
- 2) Owners who are still doing agriculture as second occupation; they are more concern about protecting traditional water pond.
- 3) Changes in desalination worker occupation also create problem for cleanness of traditional water ponds.
- 4) Accessibility of Road towards the traditional water ponds is major issues for cleaning pond.
- 5) Now the awareness about organization work on traditional water ponds is spreading in other villages and community from Vasai region.

2. Session on “Importance of Traditional water ponds and roof rainwater harvesting” with Vasai region Catholic old age group in Girij village

Vasai region old age group is working with catholic aged people from Vasai region. On the 1st May, they celebrate their Annual day of group. On this day, they call Mr. Sachin Marti, as a chief guest for program. In this program, they give me 20 min to talk about “Importance of Traditional water pond and Roof rain water harvesting”. Total 150 people from Vasai region were participated in this program.

Mr. Marti talked about the Vasai historical background, different water resources, traditional water pond, need in present situation, protect of traditional water pond, water quality of Vasai from Harit Vasai movement to till now and Roof rainwater harvesting as a solution for salinity.

After the talked they had question answer session. Many people share their memories about traditional water ponds, their occupation. Some question come on use of water filter and waste of water issues.

After session committee of old age group contacted Mr. Marti regarding protection of traditional water pond and role of old age group. So Mr. Marti was to ready to help them.

Outcome:-

After a session with old age group, I got 10 calls from group members who were interested to installed Roof rainwater harvesting on their home. So I help them for installing Roof rainwater harvesting. Out of 10 people 8 have successfully installed Roof rainwater Harvesting.

Some observation during project work

1) After desiltation, the traditional water pond creating positive impact on near area drinking dug wells. It shows that there is increasing in water table and also decreasing in salinity. For example :- Pond from Bhuigaon village, after desiltation, the water table of near well is increased by 0.50m (4.25m) to 2011 data (4.65m) and TDS decrease by 30ppm (750ppm in 2011) and no change Salinity.

2) Water and land depend in Vasai region is increasing day by day after Vasai-Virar Municipal Corporation come and because of these reason, the tanker lobbng in very active in Bolij and Umralay village from Vasai area.

3) Now traditional water pond land now converted in to community center or play ground.

Outcome of Project:-

1) Reach out to total 110 traditional water ponds from 4-5 villages from Vasai.

2) 5 traditional water ponds were clean and maintain with help of owner or community people.

3) Spread awareness among 3000 people about protection of traditional water ponds.

Limitations:-

1) Lack of Worker for desalination the traditional water pond.

2) Lack of participation from Hindu and OBC community traditional water pond owners.

3) Lack of data regarding important traditional water pond (recharging zone)

Conclusion

Today day by day population of Vasai -Virar region is increasing in rapid speed. The water resources are depleting day by day, decreasing water quality of drinking water is also major issue. In this stage, traditional water ponds will be us for fulfilling housing need of population. So protecting all traditional ponds with help of community it is not possible, but in this stage we can find traditional water ponds which are recharging zone of unconfined aquifer and fulfilling drinking and irrigation need of community. These all recharging zone traditional water ponds we able to save than it will protect the unconfined aquifer. So we need support for mapping the unconfined aquifer of 1-2 villages of Vasai region and find out the important traditional water ponds.

Recommendation

- 1) Mapping of the existing traditional water pond in each village in VVMC area.**
- 2) There is need of to start a scheme to “Save traditional water Pond”. Under this scheme owner should get some financial help from Panchayat raj institute.**
- 3) Need to promote organic farming project and conservation of water pond which will provide food to local community and give employment opportunity to all daily wages and migrated labours.**
- 4) While doing the mapping for ponds, this data should put up in taluka and village levels map. So people can identify their ponds. Also need to map the attachment area of pond and it should be declare as “ Green Zone”.**
- 5) Pond which is come under recharging zone, it should be declare as protected zone.**
- 6) While doing this also important to take local villagers and owners participation and concern while doing mapping of TWP.**

Future Scope of Study

Need to study the unconfined and confined aquifer situation and mark the important traditional water ponds as recharging zone for protection.