ANALYSIS THE VILLAGE PROBLEM AND PROVIDE APPROPRIATE SOLUTION TO THE GRAM PANCHAYAT

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Abstract: This project report deals with the analogizing and provide appropriate solution on the village problem. We define to make the village as a problem free. In village we identify three major problems like Solid waste management, Sewage water management, Scarcity of water. We analysis the problem and provide the appropriate solution on it. For the management of sewage water we tell them to construct the soak pit in every houses in village that reduces the sewage water and also increases the ground water level. For the solid waste we suggest the segregation and treatment plant. For the scarcity of water we suggest the rainwater harvesting and watershed management.

Index Terms - Analysis the village problem, sewage water management, solid waste management provided appropriate solution

1. INTRODUCTION
In India there are so many villages which face the solid wastes, sewage water and scarcity of water like this types problems. Modernization and urbanization have caused people to migrate around in search of various facilities like clean and odors free surrounding, water facilities etc. The village is the primary foundation for nation development. village which improve by having the water facilities in all season and proper management of sewage water and solid waste management. In India there are 64369 villages out of these 25000 are backs word so it is not good for our country. In the demand for the water is rising as a result of population growth which increases resource use and decreases availability. In India cities and rural areas surface water and ground water are the main sources of drinking water overtime improve resource extraction has resulted from population growth urbanization and agricultural development.
II. OBJECTIVES

1) visit and identify various problem in village .
2) To make detail analysis of problem .
3) To provide appropriate solution

III. FUTURESCOPE:
1) Get knowledge about the solid waste management .
2) It helps for dissemination of information about water conservation .
3) Make the people responsible about sewage water management .

IV. INFORMATION OF VILLAGE ( RETHARE DHARAN )

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Information of village</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Area</td>
<td>20.27 km /sq.</td>
</tr>
<tr>
<td>2</td>
<td>No. of houses</td>
<td>2171</td>
</tr>
<tr>
<td>3</td>
<td>Population:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1) Men: 3216</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) Female : 2997</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Water supply system by Lake</td>
<td>ITMC</td>
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<tr>
<td></td>
<td>Pipe line work construction under “Rashtriya Peyjal Yojana”</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Schemes implemented by Grampanchayat</td>
<td>1) 5 Bandhara</td>
</tr>
<tr>
<td></td>
<td>1) Jalyukt-shivar yojana</td>
<td>2) Many farmers are benefited by this schemes</td>
</tr>
<tr>
<td></td>
<td>2) Nanaji Deshmukh krishi sanjivani yojana</td>
<td>3) 20 no house</td>
</tr>
<tr>
<td></td>
<td>3) Gharkul yojana</td>
<td></td>
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<tr>
<td>6</td>
<td>Power supply</td>
<td>Islampur Substation</td>
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<tr>
<td>7</td>
<td>Water supply for agriculture</td>
<td>Wells :40</td>
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<td>Bore wells: 47</td>
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<td></td>
<td></td>
<td>Lake : 2</td>
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<tr>
<td>8</td>
<td>Bandhara types</td>
<td>Cement bandhara : 5</td>
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<tr>
<td></td>
<td></td>
<td>Kolhapuri bandhara : 1</td>
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<tr>
<td>9</td>
<td>Education facility</td>
<td>New English School</td>
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<td></td>
<td></td>
<td>Ashramshala</td>
</tr>
<tr>
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<td>Z.p.school No.1</td>
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<td></td>
<td>Z.p.school No.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anganwadi no 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anganwadi no 2</td>
</tr>
<tr>
<td>10</td>
<td>Biogas plant</td>
<td>7</td>
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<tr>
<td>11</td>
<td>Street lamps</td>
<td>37</td>
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<td>12</td>
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</tr>
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<td></td>
<td>Privet clinic: 3</td>
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</tr>
<tr>
<td>13</td>
<td>Co-operative society</td>
<td>2</td>
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<tr>
<td>14</td>
<td>Bachatgat</td>
<td>10</td>
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<tr>
<td></td>
<td>Private: 8</td>
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<tr>
<td></td>
<td>Govt: 2</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Bank</td>
<td>Jiha madhyavarti bank</td>
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<tr>
<td>16</td>
<td>Worth ship place</td>
<td>Temple : 10</td>
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<td>17</td>
<td>Income source</td>
<td>Agriculture</td>
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<td></td>
<td></td>
<td>Poultry fram</td>
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<td></td>
<td>Animal conservation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Business</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1)Small shops</td>
</tr>
<tr>
<td></td>
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<td>2)Dairy products</td>
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<tr>
<td>18</td>
<td>Irrigation source</td>
<td>1)Drip</td>
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<tr>
<td></td>
<td></td>
<td>2)Sprinkler, 3)</td>
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<td>19</td>
<td>Major problems</td>
<td>1) Water scarcity</td>
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<tr>
<td></td>
<td></td>
<td>2) No solid waste treatment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3) Waste water</td>
</tr>
<tr>
<td>20</td>
<td>Literacy</td>
<td>80.10%</td>
</tr>
</tbody>
</table>

Fig on 1: Information of village
V. PROBLEMS IN VILLAGE

1) SOLID WASTE MANAGEMENT: In rethare dharan village daily collection of solid waste is 1 tons. Solid waste is collected by the gram-panchayat pickup truck. Solid waste is dumped in the open area.

![Solid waste image](image1)

Fig no 2: solid waste

natural body

1) SEWAGE WATER MANAGEMENT: In the Rethare Dharan village sewage water is the drain out in to the

![Sewage water image](image2)

Fig no 3: Sewage water

2) SCARCITY OF WATER: In summer season Rethare Dharan village people face many problem of water scarcity. Village required 247500 liter water daily but in summer season it is not possible to provide

![Water scarcity image](image3)

required water.
VI. ANALYSIS THE PROBLEM AND PROVIDE APPROPRIATE SOLUTION:

- **PROBLEM NO 1: Solid waste**
- **SOLUTION: Segregation and treatment plant**

Let establish a waste collection transport with in panchayat. The collected waste should be segregated into Biodegradable and Non Bio-degradable. It is also segregate gram-panchayat treatment plant and also at home like Green-Dustbin for Bio-degradable and Red Dustbin for Non Bio-degradable. We can make Bio compost from Bio degradable waste and we can recycle and reuse the Non Bio degradable waste.

**BIO-DEGRADABLE WASTE:**

In the Rethare Dharan village daily collection of the Bio-degradable waste is 400Kg like green waste, food waste, paper waste, and biodegradable plastic etc. From this type of waste we can make compost.

**METHODS OF COMPOSTING:**

1) Indoor method off composting
2) Bangalore method of composting

1) Indoor method of composting:

Indoor approach, earth is alternately heaped into a trench with a depth of 1.5 to 2 meters and a breadth of 3 to 8 meters above the ground to form a mound known as a windrow.50 meters in length. Typically, windrows have a conical form and are turned to allow for aeration. For smaller plants, manual turning is used, and for larger plants, automated turning. Refuse should be turned once or twice a week to assist regulate temperature and introduce oxygen. Turning is continued for around 4-5 weeks during which biodegradable organic are ingested. For two to eight weeks, the solid waste is kept without being turned. It can take 21–28 days for the composting in windrows to stabilize. Composted waste is taken out of the windrow.

2) Bangalore method of composting:
The Bangalore method is a widely utilized anaerobic technique for municipal solid waste's organic composting to be biologically converted. In order to control odor, this approach involves excavating an underground earthen trench and filling it with alternating layers of garbage and dirt. The topmost layer of dirt is the last one. The earth cover inhibits fly reproduction in addition to preventing odors. After two to three days after burial, a strong biological reaction occurs and organic debris begins to decompose. After the garbage was stabilized for four to five months, the evolution of the head during biological action raises the temperature of the DE composting materiel.

![Bangalore method of composting](image)

**Fig no 7: Bangalore method of composting**

**NON BIO-DEGRADABLE WASTE:**
In the Rethare Dharan village daily collection of the non bio-degradable waste is 600Kg like Foot wear, fibers, metals, poisons chemical, pesticides, and consumer goods like disposable bags, supermarket bags, plastic container, water bottles, and metal cans. We can reuse and recycle this type of waste.

![Non Bio-degradable waste](image)

**Fig no 8: Non Bio-degradable**

waste

1) Recycling:
The processes of collecting, sorting, marketing, and processing materials extracted from solid waste are all included in recycling. Recycling materials can be collected independently of ordinary solid waste utilizing collection trucks and bins. The waste is first divided into different bins, such as those for paper, plastic, and metals, which are kept segregated for collection at the source. Sometimes every recyclable component plays a role in managing solid waste. What would otherwise be rubbish is turned into valuable resources through recycling. While utilizing already-existing natural resources, it also conserves them.

2) Purpose of recycling:
Recycling helps the environment by reducing pollutants, slowing global warming, and reducing the amount of waste that ends up in landfills. Because it requires very little energy to reprocess recycled materials into new material, recycling saves and conserves energy. By lowering the industrial production of new goods, recycling also contributes to a reduction in air pollution and global warming. Recycling lessens the quantity of garbage that ends up in landfills.
PROBLEM NO 2: Sewage Water Management

SOLUTION: Soak pit (Magic pit)

It is porous walled chamber which allow water seeped into the ground it is covered pit. It helps to increasing the ground water with the help of waste water and storm water which is discharged in to the chamber. The waste water is percolates from the soak pit and small sol particles are filtered by soil and stone layers. Soak pit needs the good absorptive sol it is not suitable for clay rocky soil. It should be located away from the drinking water at least 30m. It is odorless and it is also not visible. That’s why health related problems not occur due to soak pit. The soak pit need maintenance after 3 to 5 years when the soak pit performance get week then we can excavate the pit and refilled the same material. For the maintenance we can use removable seal cover. for the soak pit GOVT give 14000 subsidy.

PROBLEM NO 3: Scarcity of water.

SOLUTION: 1) Rainwater harvesting 2) Watershed management

1) Rainwater harvesting: Rainwater harvesting is the technique of collection and the storage of rain water in storage tank and natural resources. Construction the percolation tanks in hilly areas. For the rain water harvesting allows for the use of almost any surface to capture rainwater and provide clean water including tiles, metal sheets, plastic, etc. The storage water also used for the other purpose including gardening, watering to trees, and annual crops, etc. This water also used for the drinking of animal. Harvesting rainwater will enhance food output, water availability and ultimately food security. Rain water harvesting is very useful for household or individuals in village areas. Rainwater collection will have a significant impact on income, production since it increase food security.

2) Watershed management: A collection action that helps in ratting water inside a water is know as watershed development these inclining the growth of grassland, forestry and soil and water conservation. In the order to prevent future water shortage water management involves effectively managing the hydrosphere. Improving the implementation of sustainable resource management.

Techniques for the water conservation:

1) Earthen bunds: Because of earthen bound the down stream side of the bound rise ground water table on range of 1km to 2km after flowing off the catchment region the submerged material can use as a fertilizer.
2) Continuous contour tranches:
Control the flow of the surface water encourages filtration and keeps pollutants from seeping into bodies of water.

3) Percolation ponds:
A percolation ponds is an artificial structure that is dug a naturally occurring stream or water course to collect and hold runoff from the catchments and help the impounded water seep vertically and horizontally into the soil substrata refilling the water table storage of ground water within the pounds area of effects.

VII. CONCLUSION:
After implementing the solution given by us in this project the village may be reduced problems which people face like solid waste management, sewage water management, Scarcity of water during the summer season. Your solution are analyzed solution we study on this solution and read many research paper related to project and also village people get responsible about this problems.

VIII. REFERENCE:

- TNAU Agritech Portal
  https://agritech.tnau.ac.in › agri_ma...
Major Areas :: Watershed Management

- Wikipedia
  https://en.m.wikipedia.org › wiki

  https://www.adda247.com › school
  Rain Water Harvesting Project, Definition, Methods for Class 10

- Save Indian Farmers |
  https://www.saveindianfarmers.org › ...
  Rain Water Harvesting

- MMRDA
  https://mmrda.maharashtra.gov.in › ...
  Solid Waste Management Cell - Mumbai

- ResearchGate
  https://www.researchgate.net › 282...
  wastewater treatment and management in rural areas - a case ..

- Britannica
  https://www.britannica.com › waste...
  Wastewater treatment | Process, History, Importance, Systems, & ...
  Watershed management

- Adda247

- MMRDA

- ResearchGate
  https://www.researchgate.net › 372...
  (PDF) Solid waste management project of Ichalkaranji city of ...