

GOVERNMENT DEGREE COLLEGE SHANTHINAGAR

WADDEPALLY (M), JOGULAMBA GADWAL DIST.

TELEANGANA-509126

(AFFILIATED TO PALAMURU UNIVERSITY)

Accredited by NAAC with 'C' Grade

DEPARTMENT OF CHEMISTRY

STUDENT STUDY PROJECT

On

WATER QUALITY AROUND WADDEPALLY MANDAL



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Declaration

I hereby declare that the student study project work entitled “**WATER QUALITY AROUND WADDEPALLY MANDAL**” has been undertaken by me for the award of B.Sc(BZC) Degree. We have completed this work under the guidance of **Dr. K. CHANDRAMOHAN Asst. Prof. of Chemistry** Govt. Degree College, Shanthinagar.

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GOVERNMENT DEGREE COLLEGE

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CERTIFICATE

This is certify that the Project entitled “**Water Quality Around Waddepally Mandal** ” By **K. SRIVANI (20033089445013) K. SWAPNA (20033089445014) M. SHIREESHA (20033089445018) U. USHA RANI (20033089445022) B. SUPRIYA (20033089445004)** is a Bonafide record of work done under my guidance and supervision in partial of the requirement for the award of the degree of Bachelor of Science(BZC).

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ACKNOWLEDGEMENT

Now, I am very happy to express my distinct pleasure to my beloved Parents, Teachers and Friends. First of all I thanks to our Respected Principal **Dr.G. Poshaiah**, M.A.,Ph.D. and **Dr. K. chandramohan**, Asst. Prof. in Chemistry and Mentor for this project and his planning, best suggestions, advises and benevolent guidance, unending constant encouragement and exurbant style of inspiration in the prosecution of this interesting study on “**Water Quality Around Waddepally Mandal**” My sincere thanks to him for having provided necessary facilities in connection with the investigation.

It is my special thanks to beloved Waddepally Mandal peoples for given data with more interest.

Lost but not least, we are thankful to all other personalities who have helped us directly and indirectly in completing Our Student Study Project work successfully.

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CONTENTS

Sl.No.	TITLE	Page No.
1	INTRODUCTION	03-04
2	OBJECTIVES	04
3	METHODOLOGY	05
4	SCOPE AND SOURCE OF DRINKING WATER	05-09
5	GENERAL PROBLEMS OF WATER QUALITY AROUND WADDEPALLY MANDAL	10-13
6	PROBLEMS AND DISEASES BY THIS TYPE OF WATER	13-14
7	ANALYSIS AND INTERPRETATION OF DATA	14-16
8	SUMMARY OF STUDY	17
9	SUGGESTIONS AND CONCLUSSION	18
10	REFERENCES	18

INTRODUCTION:-

In 2019, 9 percent of all water systems had a documented violation of water quality standards, exposing 5 Thousands people to unhealthy drinking water. These violations were more likely to occur in rural areas, where communities often have trouble finding the funds to maintain their systems. Water has been a persistent rise in bottle water consumption over the last two decades. Little is known about the health benefits of bottle water. Extensive review of literature was done to compare bottled water and tap water.

Generally potable water supply to homes is safe and clean for consumption still most people in developing countries prefer to consume bottled drinking water.

This preference for bottled water is because tap water supplied to homes

Some times has an unacceptable taste which could be due to the taste of chlorinated tap water and at times an unpleasant appearance.

Contamination of tap water may occur from leaking pipes and other forms of corrosion.

WATER:- The word Water comes form the old English word water or from the Proto-Germanic Water or German Wasser. All of these words means Water or Wet.

DEFINITION OF WATER:- Water a substance compound of the chemical elements Hydrogen andOxygen and existing in gaseous, liquid, and solid states. It is one of the most plentiful and essential of compounds.

A tasteless and odorless liquid at room temperature, it has the important ability to dissolve many other substance.

OTHER NAME FOR WATER:- Other names for Water include Dehydrogenate monoxide or DHMO. Hydrogen hydroxide (HH OR HOH) H₂o.

FORMULA FOR WATER:- H₂o is the chemical formula of water. It means that each molecule of water is made up of two Hydrogen atoms, indicated by the letter H, and a single oxygen atoms, represented by the letter.

Molecular Structure for Water:- H₂O:: H-O-H

Unique properties of water

- Water is polar.
- Water is an excellent solvent.
- Water has high heat capacity.
- Water has high heat of vaporization.
- Water has cohesive and adhesive properties.
- Water is less dense as a solid than as a liquid

WATER ESSENTIAL TO YOUR BODY:- water important for life because Water's extensive capability to dissolve a variety of molecules has earned it the designation of “universal solvent,” and it is this ability that makes water such an invaluable life-sustaining force. On a biological level, water's role as a solvent helps cells transport and use substances like oxygen or nutrients. Drinking water does more than just quench your thirst — it’s essential to keeping your body functioning properly and feeling healthy. Nearly all of your body’s major systems depend on water to function and survive. You’d be surprised about what staying hydrated can do for your body.

Here are just a few important ways water works in your body:

- Regulates body temperature
- Moistens tissues in the eyes, nose and mouth
- Protects body organs and tissues
- Carries nutrients and oxygen to cells
- Lubricates joints
- Lessens burden on kidneys and liver by flushing out waste products
- Helps dissolve minerals and nutrients to make them accessible to your body

Every day, you lose water through your breath, perspiration, urine and bowel movements, which is why it’s important to continue to take in water throughout the day. For your body to function at its best, you must replenish its water supply with beverages and food that contain water.

Mayo Clinic recommends this minimum daily intake of water:

- Women — 11.5 cups
- Men — 15.5 cups

By consuming the minimum recommendation of water, you’re helping your body function better and improving your overall health. Read tips and a recipe if you have difficulty drinking enough water daily.

For more information about ways to consume more water and find out if you’re getting enough for your body’s needs, talk to your health care provider.

METHODOLOGY:- The study is undertaken in Three villages of Paipadu, Thanagala, Waddepally. The village is under the Waddepally Municipality it has a mixed ethnic composition of different castes and also of a mixed religious community, that of the Hindus and Muslim. The Purpose of the present study to survey the people to get the information in the Quality of water to the households. Extensive review of literature was done to compare bottled water and tap water and also the merits and demerits of the available method of water purification were studied from the available literature and inference was drawn.

SCOPE OF WATER:- A Water scope allows you to see more clearly into the murky waters of a pond or stream. We are very fortunate to have a creek behind our house and near village.

Important of water:- Getting enough water every day is important for your health. Drinking water can prevent dehydration, a condition that can cause unclear thinking, result in mood change, cause your body to over heat, and lead to constipation and kidney stones. Water helps your body keep a normal temperature.

Important of Water In Daily Life:-

- Water is essential for our life, and there is no life without water on earth.
- We get water from many sources like rivers, groundwater, rain etc.
- We use water for drinking, cooking food, cleaning and many other purposes.
- Water is useful to grow plants and for agricultural life to get food.
- Water is an important part of many medical procedures.
- Safe Water is a Human Right.

WATER BE FOUND

Discovered Water:- It was the chemist Henry Cavendish (1731-1810) discovered the composition of water, when he experimented with hydrogen and oxygen and mixed these elements together to create an explosion oxhydrogen effect.

Water Found:- Liquid Water is found in bodies of water, such as an ocean, sea, lake, river, stream, canal pond or puddle. The majority of water on Earth is sea water. Water is also present in the atmosphere in Solid, Liquid and Vapour state. It also exists as groundwater in aquifers.

First Water On Earth:- Multiple geochemical studies have conclude that asteroids are most likely the primary source of Earth Water. Carbonaceous chondrites which are a sub class of the oldest meteorites in the Solar System have isotopic levels most similar to ocean water.

Water Found On Earth:- The study pushes back the clock on the origin of Earth's water by hundreds of million of years, to around 4.6 Billion Years Ago when all the worlds of the inner solar system were still forming.

Scientists had suspected that our planet formed dry, with high-energy impacts creating a molten surface on the infant Earth.

Water Be Found:- The world's water exists naturally in different forms and locations. In the air on the surface, below the ground and in the Oceans.

Just 2.5% of the Earth's water is fresh water, and most is frozen in golaciers and ice sheets. About 96% of all Liquid freshwater can be found underground.

Water Available On Earth:- Water move from the atmosphere to the ground and back.

- Precipitation
- Evaporation and Transpiration.

Fresh Water is found at the Earth's Surface:-

Snow And Ice

Rivers and Streams

Wetlands

Water Cycle:- The water cycle is the journey water takes as it circulates from the land to the sky and back. The sun seeds evaporates water from the Earth's surface the water rapor rises up and eventually condenses forming tiny. The water cycle is also known as the Hydrological Cycle. Since that is where about 96% of total water exists on Earth. The water cycle work step by step. They are:-

Evaporation

Condensation

Sublimation

Precipitation

Transpiration

Run-off

Infiltration

Step1:- Evaporation:- The water cycle begins with evaporation. It is a process where water at the surface turns into water vapors. Water absorbs heat energy from the sun and

turns into vapors. Water bodies like the oceans, the Seas, the Lakes and the Rivers bodies are the main source of evaporation.

Step 2:- Condensation:- As water vaporizes into water vapor it rises up in the atmosphere. At high altitudes the water vapors change into very tiny particles of ice/water droplets because of low temperature. This process is called Condensation. These particles come close together and form clouds and fogs in the sky.

Step 3:- Sublimation:- A part from evaporation sublimation also contributes to water vapors in the air. Sublimation is a process where ice directly converts into water vapors without converting into liquid water. This phenomenon accelerates when the temperature is low or pressure is high.

Step 4:- Precipitation:- Precipitation is water released from clouds in the form of rain, freezing rain, sleet, snow or hail. It is the primary connection in the water cycle that provides for the delivery of atmospheric water to the Earth. Most precipitation falls as rain.

Step 5:- Transpiration:- As water precipitates, some of it is absorbed by the soil. This water enters into the process of transpiration. Transpiration is a process similar to evaporation where liquid water is turned into water vapor by the plants.

Step 6:- Run-off:- As water runs over the ground it displaces the top soil with it and moves the minerals along with the stream. This run-off combines to form channels, rivers and ends up into lakes, seas and oceans.

Step 7:- Infiltration:- Some of the water that precipitates does not run-off into the rivers and is absorbed by the plants or gets evaporated. It moves deep into the soil. This is called Infiltration. The water seeps down and increases the level of ground water.

Two major forces move liquid water through the soil pores. Gravity and Adhesion gravity is most important in saturated soils. It causes a downward force on water. When a soil is near saturation, the large pores are filled and water moves rapidly through them.

Water Spread Through The Ground:- When rain falls to the ground, the water does not stop moving. Some of it flows along the land surface to streams or lakes, some is used by plants, some evaporates and returns to the atmosphere, and some seeps into the ground. Water seeps into the ground much like a glass of water poured onto a pile of sand.

Water Pass Through Soil:- Water first percolates through the large pores between soil particles and aggregates and then into the smaller pores. Available water is held in soil pores by forces that depend on the size of the pore and the surface tension of water.

Rain Water Reach Under The Ground:- When it rains, water falling to the surface of the soil will either infiltrate into the soil or run-off along the surface. Part of the water that infiltrates into the soil will be absorbed by the upper soil layers and part will seep down into deeper soil layers.

Water Moves Through Soil for Kids:- The underground water coming out naturally is called Spring. Springs are formed when water pressure causes a flow of water onto the surface of the earth through the cracks and tunnels within the aquifer.

Water Movement In Soil:- Generally three types of water movement within the soil are recognized.

Saturated Flow

Unsaturated Flow

Water vapour Flow

Water in the liquid phase moves through the water filled pores within the soil saturated condition. Under the influence of gravitational force.

Fast that Water Flows Through The Soil:- The process of water entering the soil surface is known as Infiltration.

Infiltration Rate:- Infiltration is a very dynamic process. Water applied to the surface of a relatively dry soil infiltrates quickly due to the affinity of the soil particles for water.

Drinking Water:- Drinking water, like every other substance, contains Small Amount of Bacteria. Most of these bacteria are common ones and they are generally not harmful.

Chlorine is usually added to drinking water to prevent bacterial growth while the water streams through pipelines.

Chemicals are added to drinking water:- To prevent contamination with germs, water companies add a disinfectant – usually either Chlorine or Chloramine that kills disease causing germs such as Salmonella, Campylobacter, and nor virus.

SOURCE OF DRINKING WATER:- Drinking water in India is mostly derived from groundwater that is pumped via hand pumps from bore well, tube wells, dug wells, and surface water like rivers, streams, ponds and lakes.

Safe of our Drinking Water:- The United States has one of the safest and most reliable drinking water systems in the world. Every year millions of people living in the United States get their tap water from a public community water system. The drinking water that is supplied to our homes comes from either a surface water or ground water source.

Cleanest Water:- Hawaii ranks first in the nation for and water quality as well as in the overall natural environment category. Massachusetts places second in the subcategory followed by North Dakota, Virginia and Florida.

Drinking Water come Form:- The water we drink in our homes and workplaces comes from a variety of sources depending on where you live. Some of us drink water that comes from deep in the earth in the form of Groundwater, while others drink water that originates as surface water in streams and rivers.

Rural Areas and some boroughs in our region receive water from individual and public community wells. A well is a hole drilled deep into the ground to access water contained in a aquifes. A pipe and a pump are used to pull water out of the ground, and a screen filters out unwanted particles that could clog the pipe.

Private wells supply 10% of New Jersey's residents and Public Wells supply another 27% of the States.

Drinking Water In Rivers:- Rivers forms the source of drinking water for 63%. If you are not connected to a well, you receive treated surface water from the Millstone, Raritan and Delaware Rivers, the canal, or a combination of these surface water sources.

Drinking water Treatment River. Drinking Water treatment plants draw water from our rivers and treat the water before pumping it to homes and businesses for consumption.

Source and Ground Water Sources:- Surface and ground water sources of drinking water are both vulnerable to pollution. Activities that unintentionally pollute the small stream in your neighborhood may be polluting your drinking water depends on all of us making wise choices about how we manage that land that drains into our streams and rivers. If we pollute the land, we pollute our water. If we pollute the lands and air and water also. Microbiologically contaminated drinking water can transmit diseases such as diarrhoea, cholera, dysentery, typhoid and polio and is estimated to cause 485000 diarrhoeal deaths each year.

Source of water:- Source water refers to bodies of water (such as rivers, streams, lakes, reservoirs, springs, and ground water) that provide water to public drinking-water supplies and private wells. Water sources can include: Surface water (for example, a lake, river, or reservoir) Ground water (for example, an aquifer)

Rural Area:- A rural area is an open swath of land that has few homes or other buildings and notuery many people. A rural areas population density is very low. Many people live in a city or urban area.

Water Important In Rural Area:- Water plays an important role in ensuring equitable, sustainable and productive rural economies. In addition to being an essential element for agricultural production, nutrition and human health, water enables job opportunities in numerous key sectors across the rural economy.

Rural Water:- The term Rural Water Supply covers all the measures taken to satisfy the demand for water in predominantly rural regions.

Water Supply challenges:- Insufficient Areas access to safe affordable water, sanitation and

Hygiene WASH physical abundance of water supplies does not necessarily mean there is adequate quality and quantity of water to meet basic human needs.

Challenges In Rural:- The major problems that have been identified by literature review in many rural areas are proper poverty, illiteracy, unemployment, homelessness, crime, social evils, lower living standards, lack of facilities, services and health.

The Main Challenges And Issues faced In Rural Development In Indian Context:- Again due to the nationwide lockdown poverty level is increasing in India which will become a major issue in rural development.

Connectivity

Electricity and Water Supplies

Education Literacy

Employment

Migration To Urban Areas

Land Reforms

The challenges of Working In Rural Setting:- Overview of specific issues in a rural context,

A disproportionate burden of chronic disease relative to the general public.

Restricted access to quality health care.

Insufficient or lack of health insurance coverage

Geographic isolation

Lack of public transportation

Poor infrastructure

Low education attainment.

GENERAL PROBLEMS OF WATER SUPPLY IN RURAL AREAS:- About 844 million people on Earth do still not have access to basic water supplies and 79% of them are rural residents. At the same time, 2.1 billion people have no safely managed drinking water supply system service. This means that 14.9% of the urban and 45.2% of the rural population need improved services.

Limited Access to Mental Health Support.

Difficulty Finding Physician Care.

Higher Levels of Poverty.

Greater risk of overdose.

Telehealth adoption disparities.

Reaching children across great distance.

The Most Dangerous Drinking Water:- The 5 most dangerous tap water contaminants.

Chlorine vs Chloramine. Both are disinfectants added to the water supply to reduce micro-organisms like bacteria and viruses.

Lead. Lead is seeped into the water supply through aging infrastructure and ancient pipes, some of which are 80-100+ years old.

Chromium-6

Fluoride

Chlorine vs Chloramine:- EPA estimates that over 60,000 chemicals are used within the USA, but only 91 contaminants are regulated by the safe Drinking Water Act.

Lead:- Lead is particularly harmful to young children, causing irreversible brain damage, lowered IQ and developmental disorders. There is no known level of lead exposure that is considered safe.

Chromium-6:- It is the carcinogenic chemical made famous by the true story of Erin Brockorich. Americans contains unsafe level of chromium-6. EWG also estimates that chromium-6 will cause more than 12,000 excess cases of cancer by the end of century, if left untreated.

Fluoride:- The most controversial chemical in water fluoride has been added to public water supplies since the middle of the 20th century for reasons of preventing truth decay.

Unsafe Water:- If drinking water contains unsafe levels of contaminants, it can cause health effects, such as gastrointestinal illnesses, nervous system or reproductive effects, and chronic diseases such as cancer.

DRINKING WATER PURIFIED:- The methods used include physical processes such as filtration, sedimentation, and distillation, biological processes such as slow sand filters or biologically active carbon, chemical processes such as flocculation and chlorination and the use of electromagnetic radiation such as ultraviolet light.

Water Purified:- Three ways to purify water.

Boiling

Disinfect

Distillation

Boiling:- Bring the water to a rolling boil for 3-5 minutes. Let cool before drinking.

Disinfect:- Use household liquid bleach regular household bleach contains 5.25% sodium hypochlorite to kill micro-organisms. Do not use scented color-safe or bleaches with added cleaners. Add 16 drops of bleach per gallon of water, stir and let stand for 30 minutes.

If the water does not have a slight bleach odor, repeat the dosage and let stand another 15 minutes. The only agent used to purify water should be household liquid bleach.

Distillation:- Fill a pot halfway with water. Tie a cup to the handle on the pot's lid so that the cup will hang right side up when the lid is upside-down. Make sure the cup is not dangling in the water. Boil the water for 20 minutes. The water that drips from the lid to the cup is distilled.

Two ways to make safe Drinking Water:-

Method-A:- Boiling

Filter the water using a cloth or coffee filter.

If the water is still cloudy after filtering, leave the container to stand for half a day, then as the dirt settles at the bottom of the bottom, scoop the clean water and filter again.

Boil for 2-3 minutes to kill all potential germs.

*Once water has boiled, it is safe to drink.

Method-B:- Chemical

Put 2 drops of 5% chlorine for every 1 liter of refrigerated water. Leave for 1 hour.

If after 1 hour there is no smell, repeat step.

*If by the 3rd try, you still cannot detect the faint chlorine smell, throw the water away as it may contain germs.

Source of Water Protect:- Communities, citizen groups, and individuals can take an active role in protecting their drinking water sources from contamination.

Water Quality be Protected:- Easy things you can do to protect drinking water sources.

Properly dispose of hazardous products put up signs.

Use and dispose of harmful materials properly.

Volunteer in your community.

Join in a beach, stream or wetland clean up

Prepare a presentation about your water shed for a school or civic organization.

Important of Water Protecting Quality:- The health of the world's fresh water resources depends on commitment from individuals, communities, and governments to ensure that water resources are protected and managed in a sustainable manner. Safe guarding the world's water quality is critical for human health and the health of our ecosystems.

Important To Protect Our Water Quality:- Poor water quality has its most direct impact on aquatic wildlife, particularly fish, bugs, and plants.

Excess nutrients, sediment, road salt, and other contaminants can reduce the variety and hardiness of organisms living in the state's waters.

Drinking Water Safe to Drink:- Boiling your water for at least 1 minute at a rolling boil will kill all harmful bacteria, parasites, and viruses from drinking water. You can also treat small volumes of drinking water by using a chemical disinfectant, such as unscented household chlorine bleach or by using a water filter.

BOTTLED WATER SAFER THAN TAP WATER:- Overall, it appears that tap water is a better option in most cases. It is convenient, free or inexpensive, and has much less of an environment impact than bottled water. Tap water is also just as safe as bottled water, and most people will not be able to tell the difference in taste.

Reverse Osmosis:- Reverse osmosis is a water cleanings frame work that uses the rule of switch assimilation to evacuate particle-by-particle all minerals, chemicals, solid particles, and dissolved contaminants from water. The rest of the contaminants are focused on the outside of the film and can be washed away.

Distillation:- It is a process where in water is heated up to boiling point, and a fan or cooling device is used to condense the vapour back into the original form. Water distillation is the best strategy for expulsion of organic, inorganic and biological contaminants.

Activated Carbon:- Here a spongy materials is utilized which is equipped for adsorbing gases, fluids, and suspended matter on its surface.

Candle Filters:- They are channels having an upper lodging chamber fitted with the candles. The water permeates through the candle and gathers in the lower collecting chamber.

These days most urban people prefer bottled water as alternative to tap water.

Mineral water has more amount of fluoride as compared to other source.

There are 21 fundamental minerals of which fourteen mineral components are built up as being basic for well-being.

Processed water is practically soft water and devoid of its mineral contents and has no residual chlorine.

Natural Mineral Water: -

Natural Mineral Water originate from an aquifer or underground reservoir, springs from one or more natural or bare sources and has specific hygienic features and eventually, health properties.

Bottled water as a food and identifies natural mineral water as “Water Containing not less than 250 part per million (ppm) Total Dissolved Solids (TDS), coming from a source at one or more bore holes or springs, originating from a geologically and physically protected underground water source”.

Activated Carbon has been used for about 15 years to improve the quality of drinking water by removing objectionable taste, odour, dirt, rust and sand.

Problems and diseases:

Water Problems:-

- Climate Change
- Natural calamities such as droughts and floods
- Increase human consumption
- Overuse and Wastage of water
- A global rise in fresh water demand
- Over use of aquifers and its consequent slow recharge
- Ground water over drafting
- Water pollution in rural areas

How to solve the water problems in student way:- The first students are collect the information and to plan the overcome the problems.

The first step of the problem solving process is to identify and the problem.

The Second step, which is to analyze the problem.

The Third step, involves gathering information.

The Fourth step, sorting through relevant and irrelevant information.

The Fifth step, evaluating the source of the problem by asking the five w's: Who, what, where, when and then why.

In you mind, go through what the problem is and then identify the steps which are required to resolve the situation before taking action.

ANALYSIS & INTERPRETATION OF THE DATA

S.No	Mandal	Village	PH	F mg/L	TDS mg/L	SO ₄ mg/L	NO ₃ mg/L	Cl ⁻ mg/L	Na mg/L	Ca mg/L	Mg mg/L	Total Hardness
1	Waddepally	Tanagala	8.1	1.20	1089	25	15	260	248	88	39	380
2	Waddepally	Paipadu	8.0	1.0	623	12	08	160	124	48	19	198
3	Waddepally	waddepally	8.2	0.21	602	10	11	120	85	84	29	329

Summary of Study

Interest of today's generation in the quality of drinking water supplied has stimulated the use of domestic purification system to reduce the organic and inorganic contaminants in water. Numerous water purification systems are available in the form of reverse osmosis, distillation and activated carbon.

Drinking water has to be clear, odorless, tasteless, colorless and harmless, that is devoid of pathogenic micro-organisms and harmful chemicals to humans.

Reverse Osmosis

Distillation

Activated Carbon

Candle Filters

Natural Mineral Water

In this study, I have learned that:

- Water is essential for life. Drinking water must be safe, of adequate quantity, accessible and affordable.
- Water has several uses of which the most important are for personal consumption and cleanliness, for irrigation, and for industry. The quality of water acceptable for the various uses can be different.
- Rural water supply may originate from springs, wells or surface water. Water from springs and wells is generally used without any treatment, while surface water needs treatment before it is safe to drink.
- In a Rural water no distribution network, transmission mains take water from water treatment plants to service reservoirs. No Service reservoirs are located on high ground so that water flows by gravity through distribution mains to the water consumers. Where there is no high ground, water towers are constructed and used.
- Water supply planning must take account of present and future water demand by people, and by industrial and commercial development. Domestic use is likely to increase as living standards improve. Planning also needs to consider the needs of schools, health facilities and other institutions.
- There are many challenges facing Rural water supply in Karvetinagaram and TKM

Peta and several factors that can contribute to overcoming them, including increased funding, reduced bureaucracy, capacity building, better coordination between the stakeholders involved, and better information management.

SUGGESTIONS:- There are still many challenges ahead but the following changes will all contribute to future success:

- An increase in funds for the expansion of water supply services to satisfy the demand of growing populations, particularly in small outlets in Rural areas.
- A reduction in bureaucracy to facilitate the spending of funds that are committed (currently only low budgeted finances are actually spent)
- A reduction in the turnover of personnel, and an increase in human resource capacity and expertise at different levels.
- Better coordination between the different stakeholders (for instance, there is lack of coordination between the water sector, telecommunication department and the road authority; because of this, water pipes are frequently damaged during activities such as laying down telephone and internet lines, and during road construction)
- The presence of more experts to monitor sector performance at all levels
- Better information management systems, giving early warning of requirements.

CONCLUSION:- We the Group that what we have especially noticed through this research is that in these paipadu, Thanagala, wadepally even though the government is supplying water through tanks and taps, but there are not able to supply the drinking water they need. Some water is supplied by the government, but it is noticed that there is a need to improve the water quality. To conclude, bottled water is not as safe as it has been portrayed by marketing agencies. It may not be free of microorganism.

Plastic used in manufacture of bottles for bottled water may be associated with carcinogens and these empty bottles adversely impact the environment. Tap water is safe and may contain elevated levels of calcium, magnesium, and sodium and may give clinically significant bits of the suggested dietary admission of these minerals. There are stringent water treatment regulations in place in most countries which provide safe drinking water to all. Tap water is generally a better option, as it's just as safe as bottled water but costs considerably less and has a much lower environmental impact. Tap water is even safer to drink than bottled water.

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AI Quad camera



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