

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE (An Autonomous Institution Affiliated to Andhra University) Reaccredited by NAAC with 'A' Grade(3rd Cycle) District Resource Centre & Center for Research Studies Maddilapalem, VISAKHAPATNAM 530 013, Andhra Pradesh





Dr. V. S. Krishna Govt. Degree & P G College (A) Maddilapalem, Visakhapatnam.

COMMUNITY SERVICE PROJECT

A Survey On Drainage And Plastic Problems

PROJECT REPORT SUBMITTED BY

P. Manasa Sai Lakshmi

Id no :- 21207056 I B.Sc. (BZC) (Il Semester) Dr. V. S. Krishna Govt. Degree & P G College (A) Maddilapalem, Visakhapatnam.

Under the Guidance of

Dr. P. R. Vani Asst. Professor of Zoology Dept. of Zoology and Aquaculture Dr. V. S. Krishna Govt. Degree & P G College (A) Visakhapatnam.





CERTIFICATE

This is to certify that the Community Survey Project entitled "A Survey on Drainage and Plastic problems" by Ms. P. Manasa Sai Lakshmi . Id no :- 21207056 of 1st B. Sc. BZC, Il semester is a genuine and bonafide work of her is submitted to the Department of Zoology, DR.V.S. KRISHNA GOVT. DEGREE COLLEGE (A) for consideration in partial fulfilment of the requirement as part of the community service project work .

This original research work was carried out by her under my guidance and supervision and does not form the basis of any other degree or diploma in any other Organization or Institution.

Mentor

(Dr. P. R. Vani) Asst.Professor in Zoology Dr. VSK GDC(A) Visakhapatnam



STUDENT DECLARATION FORM

I hereby declare that the project report entitled "A survey on Drainage and plastic problems" at Maddilapalem, VISAKHAPATNAM District of AndhraPradesh state is my original work and has not been published or submitted for any degree college, diploma or other similar titles else anywhere.

This has been undertaken for the purpose of partial fulfillment of Community Survey Project in I B.Sc. BZC of Dr. V. S. Krishna Govt. Degree & PG College(A), Maddilapalem, Visakhapatnam.

> P. Manasa Sai Lakshmi Id no 21207056 I B. Sc. (BZC) Dr .V.S.Krishna Govt. Degree College (A) Maddilapalem, Visakhapatnam.

ACKNOWLEDGEMENTS

It is really a matter of pleasure for me to get an opportunity to thank all who contributed directly or indirectly for the successful completion of this project entitled "A survey on Drainage and Plastic Problems" at MADDILAPALEM, VISAKHAPATNAM District of Andhra Pradesh state.

I am thankful to Dr. I. Vijaya Babu Sir, Principal of Dr. V.S. Krishna Government Degree College (A) for giving this opportunity.

My special thanks to my Project Mentor Dr. P.R. Vani mam for giving constant guidance, support, encouragement and helping me to complete this project successfully.

I am also thankful to the CSP Coordinator Dr. T. Samuel David Raj Sir for introducing and helping us understand the guidelines of CSP and Head of the department of Zoology Dr. P. Jaya mam for giving encouragement to successfully complete the project.

I wish to express my gratitude to all the 180 members of Maddilapalem who helped me in collecting information during the survey by giving proper responses, which has been instrumental in completion of this project work.

P. Manasa Sai Lakshmi

"A SURVEY ON DRAINAGE AND PLASTIC PROBLEMS" IN MADDILAPALEM AREA, VISAKHAPATNAM.

<u>Aim</u>:

To identify the problems of residents in Maddilapalem.

Methods adapted :

Community survey and community awareness.

<u>Timeline</u>:

First week: "Community survey".

This includes door-to-door socio-economic survey to identify the problems faced by the residents of Maddilapalem of Visakhapatnam district and collection of data in the form of a questionnaire. A total of 100 houses were surveyed. A comparative study of prevalence of various problems prevailing in the area was made.

Second week: "Community awareness".

Under this programme, an attempt to create awareness among the residents regarding plastic waste management and drainage issues related to Maddilapalem area has been made through posters and charts.

Third week: "Problem survey".

The major problem identified during the socio-economic survey of the first week was "Drainage problem and Plastic waste management". A questionnaire in this aspect had been prepared and again a door to door survey of 80 houses has been conducted during the third week.

Fourth week: "Report preparation".

It includes final drafting of the project report. All the data collected had been compiled in the form of a report. This includes the analysis of data through graphical representation. Based on this, definite conclusions were drawn regarding the prevalence of Drainage problems and Plastic waste management and possible remedies. Finally, it's presentation to the internal viva committee at the college level individually.

LOG BOOK

1	Name of the	e Student	PAPPALA MANASA SAI LAKSHN	11
2	Registered I	Number	21207056	
3	Year		2021-22	
4	Program Stu	ıdying	I B.Sc (BZC)	
5	Program Co	ombination	Chemistry, Botany, Zoology	
6	Name of the Mentor		Dr. P.R. Vani	
7	Name of the CSP		Drainage and Plastic proble	em in Maddilapalem
8	Place of CS	P Execution	Maddilapalem	
S.N o	Date	Work Done		No. of Hours Spent
1	1/6/2022	Allotment of Mentor		
2	2/6/2022	Information on present loc	cation given to Mentor	
3	3/6/2022	Orientation on Community Service Project		2 hrs
4	4/6/2022	Using Google Docs, Geo-tagging of photos		2 hrs
5	5/6/2022	Socio-Economic Survey - no. of houses visited - 14		3hrs
6	6/6/2022	Socio-Economic Survey - no. of houses visited - 15		3hrs
7	7/6/2022	Socio-Economic Survey - no. of houses visited - 19		4hrs
8	8/6/2022	Socio-Economic Survey - no. of houses visited -18		3hrs
9	9/6/2022	Socio-Economic Survey - no. of houses visited -17		4hrs
10	10/6/2022	Socio-Economic Survey - no. of houses visited -17		4hrs
11	11/06/2022	Attended online class about	ut community awareness	2 hrs
12	12/06/2022	Prepared charts and posters of community awareness		5 hrs
13	13/06/2022	Prepared charts and posters of community awareness		5 hrs
14	14/06/2022	Created awareness in busstops nd schools ns society		5 hrs
15	15/06/2022	Created awareness in busstops nd schools		5 hrs
16	16/06/2022	Created community awareness in busstops nd schools		5 hrs

17	17/06/2022	Attended online class about community service project	3 hrs
18	18/06/2022	Done community service project	4 hrs
19	19/06/2022	Done community service project	4 hrs
20	20/06/2022	Done community service project	4 hrs
21	21/06/2022	Done community service project	4 hrs
22	22/06/2022	Done community service project	4 hrs
23	23/06/2022	Collected all data of CSP and project	5 hrs
24	24/06/2022	Collected all data of CSP and project	5 hrs
25	25/06/2022	Analysis of the data	5 hrs
26	26/06/2022	Prepared report on the survey	5 hrs
27	27/06/2022	Prepared report on the survey	5 hrs
28	28/06/2022	Prepared report on the survey	4 hrs
29	29/06/2022	Prepared report on the survey	4 hrs
30	30/06/2022	Report submission to the mentor	

ABOUT THE PLACE OF SURVEY



Maddilapalem, Visakhapatnam district, Andhra Pradesh, 530013. https://maps.app.goo.gl/Te49Yx5R6vRNd4cp7

ABOUT THE CITY

Maddilapalem is an area of Visakhapatnam city, in the Indian state of Andhra Pradesh. It was initially a small suburb outside of Visakhapatnam. It is one of the major commercial and residential suburbs of Visakhapatnam. CMR Central is located at Maddilapalem Junction. It is one of the largest shopping malls in Visakhapatnam City. Maddilapalem is home to one of the busiest transport hubs in Visakhapatnam. Visakhapatnam BRTS connects Maddilapalem to Asilmetta. Maddilapalem Junction is among the busiest in the city. The roads lead from this junction to Asilmetta, Dwaraka Nagar, and Madhurawada.

According to census 2011 information the sub-district code of Visakhapatnam Urban Block (CD) is 04867. Total area of Visakhapatnam urban mandal is 112 km² and has a population of 9,77,771. Visakhapatnam Urban has a population density of 8761 inhabitants per square kilometre. There are about 2,48,162 houses in the sub-district.

When it comes to literacy, 75.62% population of visakhapatnam urban mandal is literate, out of which 80.05% males and 71.12% females are literate. There is no rural area or village in Visakhapatnam urban block.

Particulars	Density	Males	Females	Total Population
Urban	8,761 / km²	4,93,015	4,84,756	9,77,771
Total	8,761 / km²	4,93,015	4,84,756	9,77,771

PART-A

Abstract of Community Service Project

• <u>Total no of houses surveyed :</u>

A total of 100 houses have been surveyed in "Socio-Economic Survey".

• Type of house

In the total of 100 houses in survey 8 houses are sheet roofed and 92 houses are pucca houses and there are no thatched houses.

• Ownership of house

65 houses in this area are rented and 35 are self-occupied.

• Number of family members

In 16 houses, 2 numbers are living in their family and in 14 houses 3 members per house are living, in 48 houses 4 members for each house are living, in 14 houses 5 members each are living, in 5 houses 6 members each are living, only a single house has 1 member, 7 members and 8 members respectively.

• Age groups

There are 43 children of 0 to 10 years, 88 people between 11 to 20 age, 89 people between 21 to 30 age, 69 people between 31 to 40 age, 60 people between 41-50 age, 20 people between 51-60 age and 31 people between 61-70+ age in this area.

• Earning members of houses

In 98 families only one member is earning and in 2 families 2 members are earning.

• Monthly income of family members

Among the earning members, most of them i.e, 66 members earn between 1000-10,000 rupees per month, 20 members earn between 11,000-20,000 rupees per month, 6 members earn between 21,000-30,000 rupees per month, 2 members earn between 31,000-40,000 rupees per month and 3 members earn 41,000 and above per month in this area.

• Education qualification

Most of the people i.e 84 members had High school qualification, 64 members has college qualification, 42 has university level education, 27 has primary school education and 26 has no formal education.

• Agriculture land

Among the families I surveyed, 81 families don't have agricultural land and 19 families have agricultural land.

• Land in acres

Among the families that have agricultural lands, 3 families have below 1 acre, 10 families have 1 to 2 acres, 4 families have 2 to 3 acres and 2 families have more than 3 acres of land.

• Cultivated crops

Most of the families i.e, 13 cultivate both paddy and sugarcane, 5 families cultivate only paddy and 1 family cultivate both paddy and mango.

• Annual income from crops

Annual income from crops of 1 family is between 1,000-10,000, 6 families between 11,000-20, 000, 6 families between 21,000-30,000, 2 families between 31,000-40,000 and 3 families earn 40,000 and above.

• Live stock

Among the surveyed houses, only 3 families have livestock and 97 families don't have any livestock.

• Types of animals in live stock

All the 3 families raise Buffaloes.

• Monthly earnings from the cattle

All the families earn 1000 and below as monthly income.

• Internet availability to homes

Among 100 houses 13 houses have internet and 87 houses have no internet connection.

• Dish availability to house

42 houses have dish and 58 houses have no dish connection.

• Vehicles availability

44 families have bikes, 12 families have scooters, 2 families have autos and 1 family have car.

• Name of govt scheme receiving

28 children are getting ammavadi, 10 children are getting jvd, 17 people are getting Raithubharosa, 2 people are getting Cheyutha and 7 people are getting other government schemes.

• Water availability to house

14 families have personal bores, 9 families are using community bore, 68 families are using municipal tap for water supply.

• Drinking water facility

Only 11 families are using water filters, the remaining 89 families depends on pot water.

• Health problems facing in family

15 people are suffering with blood pressure, 13 people are suffering from diabetes, 7 people are suffering from other diseases.

• Medication

Everyone in this area is using Allopathy medicines for treatment.

• Unexpected deaths in family

There are no unexpected deaths by road accident and snake bites in these families.

• Major problem identified

Many problems are identified like mosquitoes, drainage problem, plastic waste, sanitation. Among these "Drainage problem and Plastic waste management" are identified as the major problems stated by the residents of the area.

SOCIO-ECONOMIC SURVEY































































































































PART-B

<u>Community awareness programme conducted w.r.t the problems and their</u> <u>outcomes</u>

Awareness on various problems identified during the survey has been created among the respondents of the households through meetings and discussions, their outcomes are discussed and communicated with the sample respondents.

Step 1 :-

I had prepared some charts and some posters to create awareness among the people in the area on the topics which I identified as the most problematic issues during the survey.



Step 2 :-

I went to the nearby primary health centre and created awareness among the people. I also visited the area bus stop and talked to the people about the issues. I visited the primary school (Anganwadi) of the area to create awareness among the children about the harm caused due to "Drainage and Plastic waste".



Awareness near area bustop





Awareness in Primary Health Centre(PHC)





Awareness in Anganwadi

PART-C

Project work "Project on the Drainage and plastic problems in Maddilapalem"

Introduction:-

Drainage is the natural or artificial removal of a surface's water and sub-surface water from an area with excess of water. The internal drainage of most agricultural soils is good enough to prevent severe waterlogging (anaerobic conditions that harm root growth), but many soils need artificial drainage to improve production or to manage water supplies.



High density polyethylene pipe installation in a storm drain project.

REASONS FOR ARTIFICIAL DRAINAGE SYSTEM:-

Wetland soils may need drainage to be used for agriculture. In the northern United States and Europe, glaciation created numerous small lakes which gradually filled with humus to make marshes. Some of these were drained using open ditches and trenches to make mucklands, which are primarily used for high value crops such as vegetables.



An agricultural drainage channel after a heavy rain.

The largest project of this type in the world has been in process for centuries in the Netherlands. The area between Amsterdam, Haarlem and Leiden was, in prehistoric times swampland and small lakes. Turf cutting (Peat mining), subsidence and shoreline erosion gradually caused the formation of one large lake, the Haarlemmermeer, or lake of Haarlem. The invention of wind-powered pumping engines in the 15th century permitted drainage of some of the marginal land, but the final drainage of the lake had to await the design of large, steam powered pumps and agreements between regional authorities. The elimination of the lake occurred between 1849 and 1852, creating thousands of km2 of new land.

Coastal plains and river deltas may have seasonally or permanently high water tables and must have drainage improvements if they are to be used for agriculture. An example is the flatwoods citrus-growing region of Florida. After periods of high rainfall, drainage pumps are employed to prevent damage to the citrus groves from overly wet soils. Rice production requires complete control of water, as fields need to be flooded or drained at different stages of the crop cycle. The Netherlands has also led the way in this type of drainage, not only to drain lowland along the shore, but actually pushing back the sea until the original nation has been greatly enlarged.

In moist climates, soils may be adequate for cropping with the exception that they become waterlogged for brief periods each year, from snow melt or from heavy rains. Soils that are predominantly clay will pass water very slowly downward, meanwhile plant roots suffocate because the excessive water around the roots eliminates air movement through the soil.

Other soils may have an impervious layer of mineralized soil, called a hardpan or relatively impervious rock layers may underlie shallow soils. Drainage is especially important in tree fruit production. Soils that are otherwise excellent may be waterlogged for a week of the year, which is sufficient to kill fruit trees and cost the productivity of the land until replacements can be established. In each of these cases appropriate drainage carries off temporary flushes of water to prevent damage to annual or perennial crops.

Drier areas are often farmed by irrigation, and one would not consider drainage necessary. However, irrigation water always contains minerals and salts, which can be concentrated to toxic levels by evapotranspiration. Irrigated land may need periodic flushes with excessive irrigation water and drainage to control soil salinity.



PROBLEMS FOR MAINTAINING A PROPER DRAINAGE SYSTEM:-

You may not have control over when it rains or how much it rains, but there are things you can do to lessen the impact that rainwater has on your property. Without proper drainage, water can collect in your yard creating structural issues to your home, damage to plants and flowers, an increase in bugs and a messy, swampy mess. Signs that you may have poor drainage are:

-Water in the basement.

-Mosquitoes breeding in puddling water.

-Dead grass, trees and plants suffocating/drowning.

-Erosion.

-Ice building up on walkways and patios in the winter.

Problem #1: Improperly Installed Downspouts and Gutters



Gutters and downspouts are essential parts of a home's exterior, but if they aren't installed or maintained properly, they can cause problems. The most common hurdle is when the gutters overflow or when leader pipes are not directing water away from the home. Instead, runoff will pool around the foundation of the home and cause both landscape and structural problems.

Problem #2: Improper Grading

In a perfect world, lots are graded to drain so that water moves away from the house and flows through a swale, to a drainage catch basin or down to the curb. Unfortunately, homeowners, landscapers and builders don't always get their grades right, and this can cause water to become trapped, or worse yet, flow toward the house and into the basement, home or building.

Problem #3: Run Off From Neighbours

Erosion coming from higher elevations is a major problem, and it happens when you live downhill from other properties. It's not really your neighbors' fault that this is happening, but you can't exactly ask them to prevent it, either.

Problem #4: Your Landscaping

It's hard to believe that your hard work may be causing the problems, but it's possible. Bare soil without vegetation, a yard that slopes toward your home or paved surfaces that direct water to the structure are all potential problems. Unfortunately, not everyone thinks of these things when making amendments to the home.

Problem #5: Roots in your drainage pipes

If you notice your drains are backing up, it may not be a crushed or broken pipe but roots that have invaded the pipe. Sometimes we find that they squeeze in at joints and quickly grow, breaking the fitting and loving all the moisture in the pipe. In a short time, they not only block the pipe but completely fill it requiring removal of the pipe or a root cutting service to come in and mechanically clean the pipe out.

Problem #6: Surface Depressions

If water is collecting in flat areas or the soil is staying saturated in some spots, it may be surface depressions causing the problem. These depressions allow water to puddle, creating a mess.

Problem #7: Your Soil

If you notice that your lawn is muddy in one spot and dry in the next, it could be the type of soil that is causing drainage problems. There are three basic soil types: sand, silt and clay. If your soil is heavy in clay, it won't drain very well. If it's sandy, it will let water slip right through. If it is sandy right against your home, the water will run down the sides of your foundation causing wet areas in the walls to your basement.

PLASTIC WASTE MANAGEMENT:-

Plastic pollution is the accumulation of plastic objects and particles (e.g. plastic bottles, bags and microbeads) in the Earth's environment that adversely affects humans, wildlife and their habitat. Plastics that act as pollutants are categorized by size into micro-, meso-, or macro debris. Plastics are inexpensive and durable making them very adaptable for different uses; as a result manufacturers choose to use plastic over other materials. However, the chemical structure of most plastics renders them resistant to many natural processes of degradation and as a result they are slow to degrade. Together, these two factors allow large volumes of plastic to enter the environment as mismanaged waste and for it to persist in the ecosystem.



- a) Olive ridley sea turtle entangled in a ghost net in the Maldives.
- b) Plastic pollution of Sharm el-Naga beach, near Safaga, Egypt.(Plastic pollution affects seas, beaches, rivers and land)



c) Piles of plastic waste on the government-authorized "garbage island" of Thilafushi.d) A tributary of the Wouri River in Douala, Cameroon, completely clogged with plastic. (COURTESY; Images from Google.)

Plastic pollution can afflict land, waterways and oceans. It is estimated that 1.1 to 8.8 million tonnes of plastic waste enter the ocean from coastal communities each year. It is estimated that there is a stock of 86 million tons of plastic marine debris in the worldwide ocean as of the end of 2013, with an assumption that 1.4% of global plastics produced from 1950 to 2013 has entered the ocean and has accumulated there. Some researchers suggest that by 2050 there could be more plastic than fish in the oceans by weight. Living organisms, particularly marine animals, can be harmed either by mechanical effects such as entanglement in plastic objects, problems related to ingestion of plastic waste, or through exposure to chemicals within plastics that interfere with their physiology. Degraded plastic waste can directly affect humans through both direct consumption (i.e. in tap water), indirect consumption (by eating animals), and disruption of various hormonal mechanisms.

As of 2019, 368 million tonnes of plastic is produced each year; 51% in Asia, where China is the world's largest producer. From the 1950s up to 2018, an estimated 6.3 billion tonnes of plastic has been produced worldwide, of which an estimated 9% has been recycled and another 12% has been incinerated. This large amount of plastic waste enters the environment and causes problems throughout the ecosystem; for example studies suggest that

the bodies of 90% of seabirds contain plastic debris. In some areas there have been significant efforts to reduce the prominence of free range plastic pollution, through reducing plastic consumption, litter cleanup, and promoting plastic recycling.

As of 2020, the global mass of produced plastic exceeds the biomass of all land and marine animals combined. A May 2019 amendment to the Basel Convention regulates the exportation/importation of plastic waste, largely intended to prevent the shipping of plastic waste from developed countries to developing countries. Nearly all countries have joined this agreement. On 2 March 2022 in Nairobi, 175 countries pledged to create a legally binding agreement by the end of the year 2024 with a goal to end plastic pollution.

The amount of plastic waste produced increased during COVID-19 due to increased demand for protective equipment and packaging materials. Higher amounts of plastic ended up in the ocean, especially plastic from medical waste and masks. Several news reports point to a plastic industry trying to take advantage of the health concerns and desire for disposable masks and packaging to increase production of single use plastic.

Preventing the Drainage and Plastic problems

Today Sewage pollution is a big problem in cities. About 2.3 billion people in the world suffer from diseases that are linked to water. The poor management of sewage treatment and dumping untreated waste is threatening the lives of thousands of poor people. Sewage pollution gets into our local creeks when it escapes the sewage system due to overflow, spill or crack in sanitary sewer collection system. Sewage pollution carries Pathogenic protozoa such as *Giardia* and *Cryptosporium* that are a risk to human health. Using contaminated sewage for fertilizer can result in epidemics of such diseases as cholera.

India has over 300 sewage treatment plants, most are underutilized and poorly positioned. We should first look at effectively treating our waste water and prevent sewage effluence from getting into our neighboring stream.

Cause of Sewage water pollution: Sewage water pollution is one of the major problems in cities. Improper handling of waste water is the main reason behind the pollution

of water. The careless disposal of sewage water leads to a chain of problems, such as spreading of diseases, eutrophication, increase in Biological Oxygen Demand (BOD), etc.

Following are important causes of Sewage water pollution:-

Overflow, spill, or release of raw or partially-treated sewage from a sanitary sewer collection system. Pipes are blocked by tree roots, grease and debris in sewage. The private or public sewer lines are cracked. An aging sewer infrastructure also increases the occurrence and severity of overflows. Storm flows received may be in excess of system capacity which can result in overflows from the sewerage pipe network. Overflows caused by rainwater getting into the sewer through faults in pipes or illegal connections, exceeding the capacity of the system. Poorly fitting cracked or broken inspection holes on the mains sewer system can let water into the sewerage system. Impacts of Sewage water in environment Use of untreated sewage water pose a high risk to human health and other living organisms. Wastewater contain salts that may accumulate in the root zone with possible harmful impacts on soil health and crop yields. Wastewater application has the potential to affect the quality of groundwater resources in the long run through excess nutrients and salts. When drainage water drains particularly into water bodies and surface water the remains of nutrients may cause eutrophication.

Natural resource concerns such as pollution of vital water resources, loss of fish, wildlife, exotic species, etc.

Steps to Prevent Sewage Pollution:-

Sewer overflows and backups can cause health hazards, damage home interiors, and threaten the environment. Sewage pollution gets into our local creeks when it escapes the sewage system.

Tree roots can invade even the smallest cracks in pipes. Tree roots can block the pipes causing sewers to backup and overflow. Careful thought needs to be given to the location of thirsty trees.

Use basket/strainers in sinks to catch food scraps and empty them into trash for disposal. Cracked pipes have to be repaired or replaced. Broken sewer pipes not only let storm water in, they can also allow untreated waste to enter the soil and create unhealthy conditions. If you suspect broken pipes, have your system inspected by a licensed plumber. Storm water downpipes are not allowed to be connected to the sewerage system. The effect of doing so is overflows of diluted raw sewage further down the system. This is a major cause of sewer overflows. People pouring grease down sewer lines are other common reasons for sewage overflows. Never pour grease down sink drains or into toilets.

Using contaminated sewage for fertilizer can result in epidemics of such diseases as cholera. These diseases can even become chronic where clean water supplies are lacking.

Abstract of the survey of Drainage problem in Maddilapalem

1. Location of the drainage problem.

S. No	Location of the drainage problem		
1.	All over the village	7	
2.	Only some parts of village	73	



🔵 In som e parts of the village 🛛 🔴 All over the village

2. When does this drainage problem occur?

S. No.	When does this drainage problem occur?	
1.	Rainy season	49
2.	During floods	31
3.	All over year	0



3. How often does this problem occur?

S. No.	How often does this problem	occur?
1.	Once in a month	0
2.	Twice in a year	80
3.	Throughout the year	0

4. Location of overflow of water

Among 90 houses, for nearly 27 houses water overflows surrounding their house and for 53 houses water flows in front of their house.

5. Reason for overflow (flooding) of water

S. No.	Reason for overflow (flooding) of water	
1.	Low elevation of building	29
2.	Low lying area	51
3.	Municipal pipe break	0



S. No.	Is the municipal drains	Is the municipal drains blocked?	
1.	Yes	69	
2.	No	11	

6. Is the municipal drains blocked?



7. What kind of materials block the drain canals?

S. No.	What kind of materials block th	What kind of materials block the drain canals?	
1.	Plastic	17	
2.	Clothes	12	
3.	Polythene covers	13	
4.	Bottles	8	
5.	All of these	30	



8. Does your village/ward/city has proper drainage system?

S. No.	Is your ward/city has proper dra	Is your ward/city has proper drainage system?	
1.	Yes	47	
2.	No	33	



S. No.	Is there any water problem in your area?	
1.	Yes	15
2.	No	65

9. Is there any water problem in your area?



10. Where does the drainage water go to?

S No.	Where does the drainage water go to?	
1.	To the nearby pond	6
2.	To the sea	63
3.	Into the soil surface	11



🌒 To the near bypond 🛛 🔴 To the sea 🛛 😑 On the soil surface

S. No.	Type of bags used for shopping or marketing	
1.	Cloth bags	65
2.	Plastic bags	6
3.	Paper bags	9

11. Type of bags used for shopping or marketing



12. Which material is used for household/marketing purposes?

S. No.	material is for household/marketing purposes?	
1.	Paper covers	68
2.	Plastic covers	8
3.	Polythene covers	4



12. Do you always use dust bins for throwing plastics?

S. No	Do you use dust bins for throwing plastics?	
1.	Yes	80
2.	No	0

13. Do you know diseases caused by plastic pollution?

S. No.	Do you know diseases caused by plastic pollution?	
1.	Yes	0
2.	No	80

14. Did you participate in Swachha Bharat or Swacha Andhra activities?

S. No.	Did you participate in Swachha Bharat or Swacha Andhra activities?	
1.	Yes	80
2.	No	0

15. Do you support plastic ban?

S. No.	Do you support plastic ban?	
1.	Yes	80
2.	No	0

16. What kind of measures do you take to ban plastic?

To avoid using plastic as much as possible and switching to alternate eco-friendly materials.

17. What is the Size of polythene covers used in shops?

There are many shops in the area and they use different sizes of polythene covers.

18. How many polythene covers are sold in a day?

Maximum number of polythene covers per day is up to 6-7 covers.

19. Where is the plastic waste disposed? (write the location)

Daily garbage will be deposited at the dumping yard in Mudasarilova.

S. No.	Methods used to dispose plastic wastes	
1.	Burning	8
2.	Recycling	72
3.	Throw on outskirts	0

20. What are the methods used to dispose plastic wastes?



🔵 Burning 🛛 🔴 Recycling

21 . Any plastic recycling plant in the city? There are some recycling plants in and around Maddilapalem.

<u>REPORT</u>

SUGGESTIONS AND CONCLUSIONS

If there is no proper waste management of Sewage it may leads to many disesases. It may be caused by polluted water bodies. Untreated wastewater is hard to predict. There are enough disease causing organisms in wastewater, however, to make contact with it always very risky. Many people who are infected with pathogens or pollutants in water never even develop symptoms. How healthy you are to begin with, whether or not you have built up a resistance to a specific disease, how the organism or substance enters your body, how potent or toxic it is, and the size of the dose all contribute to how severely you will be affected. People who have suppressed immune systems because of HIV/Aids, chronic disease, chemotherapy, or other conditions are especially at risk from wastewater-related diseases. Children, the elderly, and the urban and rural poor are also significantly more at risk than the general population. Because of inadequate wastewater treatment, excessive amounts of the nutrients nitrogen and phosphorus sometimes invade water sources causing algae blooms.

Algae blooms are dangerous to fish because they use a lot

of the oxygen in the water. They can also have a strong, objectionable smell and can affect the taste of water. Too much nitrogen in water can also be dangerous for humans. It is the cause of methemoglobinemia, or blue baby syndrome-a condition that prevents the normal uptake of oxygen in the blood of young babies. It is also suspected of causing miscarriages. Excess nutrients in coastal waters may also be related to certain "red tides," which kill fish and other aquatic life and can cause shellfish poisonings and certain respiratory illnesses in humans. Metals, such as cadmium, copper, lead, nickel, and zinc, can also be found in wastewater. Some of these metals are needed in trace amounts by our bodies, but can be harmful in larger doses.

Acute poisoning from heavy metals in water is rare in the U.S., but whether ingesting small amounts over an extended period of time has any accumulative effects is unknown. Other potentially toxic substances can enter wastewater from various sources, such as local business, industry, or storm water runoff. These substances can include pesticides and chemicals like chlorinated hydrocarbons, phenol, PCBs (polychlorinatedbiphenyls), and benzene. Preventing potentially harmful substances from polluting water in the first place is always the best strategy for protecting health and the environment and preserving valuable water resources for community use and recreation. Communities can help through programs that ensure local businesses and industries properly pretreat and dispose of the waste water they generate. Communities can also educate and encourage homeowners to properly dispose of hazardous household chemicals, such as paints, varnishes, photographic solutions, pesticides, and motor oil. Some communities set up special dates and locations for collecting these substances.

Conclusion

In this 3 weeks of survey in MADDILAPALEM of Visakhapatnam district, I came to a conclusion that this area has a few problems among which "Drainage and Plastic waste management "are the major ones. These problems may seem to be small and simple but if neglected they become a very difficult problem to control. Proper cleaning of drainage pipes and reduce the overflow of drains during rains. Plastic is the most dangerous material that harms both nature and living organisms. Strict rules are to be made to reduce the plastic usage and encourage people to use eco-friendly materials for our day-to-day usage.

I hope the higher official will visit the place and understand the density of problem and implement a good proper drainage system to this village.

<u>REFERENCES</u>

- Images and some data from Google
- Data of the village is from village volenteer
- Medical data from the RMP doctor of village.