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COMMUNITY SERVICE PROJECT GUIDE ALLOTMENT ME – **F 031**

DEPARTMENT: **MECHANICAL ENGINEERING** DATE: 17/06/2023

ACADEMIC YEAR: **2022 - 2023** CLASS/ SEMESTER:III BTECH /VI SEM

Group No.	Register No.	Name of the Student	CSP Title	Name of the Guide	place of work
1	21H75A0365	Trinay Chiriki	Mechanization of Power tools in Agriculture	**Dr. D. V. Siva Reddy**	kondapalli,IBM
	20H71A0303	Bhaskar Reddy S			
	21H75A0372	Venkata Prasad Kedasu			
2	21H75A0374	Venkata Siva Sai Krishna Kumar R	Farm Mechanization and Career guidance	**R. Ranjith Kumar**	Tata motors limited,jaggayyapeta
	21H75A0369	Vamsi Dara			
	21H75A0376	Vineeth Vajnepalli			
3	21H75A0366	Uday Kiran Devarakonda	Mechanization and Lubrication of Engine	**K. Supriya**	satyavolu,pedapadu mandal
	21H75A0354	Saiteja Chitla			
	20H71A0307	H.C.Madhusudhan Rao Y			
4	20H71A0316	Naga Srinu T	Mechanization of Power tools in Agriculture	**A. Naga Pavan Kumar**	konduru
	20H71A0323	Sri Ram S			
	21H75A0373	Venkata Satish Chennuri			
5	21H75A0375	Venkata Vamsi Matcha	Modernization of Water supply	**D. Divya**	satyavolu,pedapadu mandal
	21H75A0367	Uma Venkata Ramana Thentu			
	20H71A0304	Deevena Krupanand P			
6	20H71A0320	Rakesh Ch	Awareness of career guidance	**K. Madhuri**	Muthupalli village
	20H71A0317	Najeer Basha Sk			
	20H71A0311	Lokesh N			
7	20H71A0309	Krishna Reddy K	Mechanization of Agriculture Tools	**N. Naresh Babu**	konduru
	21H75A0362	Syam Prasad Narni			
	21H75A0357	Siva Manikanta Pasupuleti			

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Group No.	Register No.	Name of the Student	CSP Title	Name of the Guide	place of work
8	21H75A0371	Venkata Naveen Kumar P	Mechanization and Lubrication of Engine	**K. Sirisha**	satyavolu,pedapadu mandal
	20H71A0319	Prudhvi Rajesh Y			
	20H71A0306	Ganesh Kumar N			
9	21H75A0360	Suvarchala Devi K	Awareness of career guidance	**M. Koteswara Rao**	Kanchikacherla
	21H75A0368	Vamsi Babu Duddu			
	20H71A0308	Krishna Reddy B			
10	20H71A0301	Adarsh K	Mechanization of Agriculture Power Tools	**P. Raj Kumar**	konduru
	21H75A0355	Samyel Raju Batthula			
	20H71A0325	Venkatasai G			
11	20H71A0321	Sai Preetham S	Awareness of career guidance	**Dr. D. V. Siva Reddy**	kondapalli,IBM
	21H75A0363	Tarun Kodali			
	21H75A0370	Venkat Naga Raj Kumar N			
12	20H71A0313	Manoj P	Lubrication System	**R. Ranjith Kumar**	Tata motors limited,jaggayyapeta
	20H71A0326	M.Ganesh			
	20H71A0310	Leela Krishna S			
13	20H71A0302	Ankasena Reddy D	Awareness of career guidance	**K. Sirisha**	Z.P.H.School,kanchikacherla
	21H75A0377	Vivek Tadepalli			
	20H71A0315	Naga Sai Reddy M			
14	21H75A0358	Sreekanth Naik Megavathu	Mechanization of Agriculture Tools	**M. Koteswara Rao**	Kanchikacherla
	20H71A0322	Sai Ram M			
	20H71A0314	Mohith T			
15	21H75A0353	Saisiddhardhavarma Lanke	Mechanization of Agriculture Tools & Awareness of career guidance	**P. Raj Kumar**	Z.P.H.School,kanchikacherla
	21H75A0359	Surendra Kumar Vegireddy			
	20H71A0305	Dola Hari Y			
16	21H75A0335	Murali Thippana	Mechanization of water supply	**Dr. D. V. Siva Reddy**	Tadepalli
	21H75A0347	Ranjith Kumar Choragudi			
	21H75A0343	Raghu Lakshmana Sai Kumar K			
17	21H75A0346	Ramakrishna Thimmasarthi	Farm Mechanization and Career guidance	**R. Ranjith Kumar**	Tata motors limited,jaggayyapeta
	21H75A0317	Hari Gopal Nimmagadda			
	21H75A0318	Hema Charan Anagani			
18	21H75A0341	Prudhviraj Pothanapalli	Socio Economic Surveyy	**K. Supriya**	satyavolu,pedapadu mandal
	21H75A0328	Kiran Jarugu			
	21H75A0334	Mohammad Apsar Shaik			
19	21H75A0316	Hanuman Mocherla	Village problems and identification	**A. Naga Pavan Kumar**	satyavolu,pedapadu mandal
	21H75A0322	Jagadesh Patnala			
	21H75A0337	Naga Gopi Krishna Maganti			
20	21H75A0312	Dola Venkata Ramana Prasadula	Mechanization of water supply	**D. Divya**	satyavolu,pedapadu mandal
	21H75A0314	Gowri Shankar Varma Nadakuditi			
	21H75A0329	Kranthi Kiran Kakula			
21	21H75A0330	Kranthi Kumar Billingi	Socio Economic Surveyy	**K. Madhuri**	vijayawada
	21H75A0303	Aravind Kumar Gurram			
	21H75A0307	Bhargav Ram Boosi			
22	21H75A0342	Radhakrishna Kunuku	Socio Economic Surveyy	**N. Naresh Babu**	Kanchikacherla
	21H75A0319	Hemanth P			
	21H75A0344	Raj Kumar Bodigadla			

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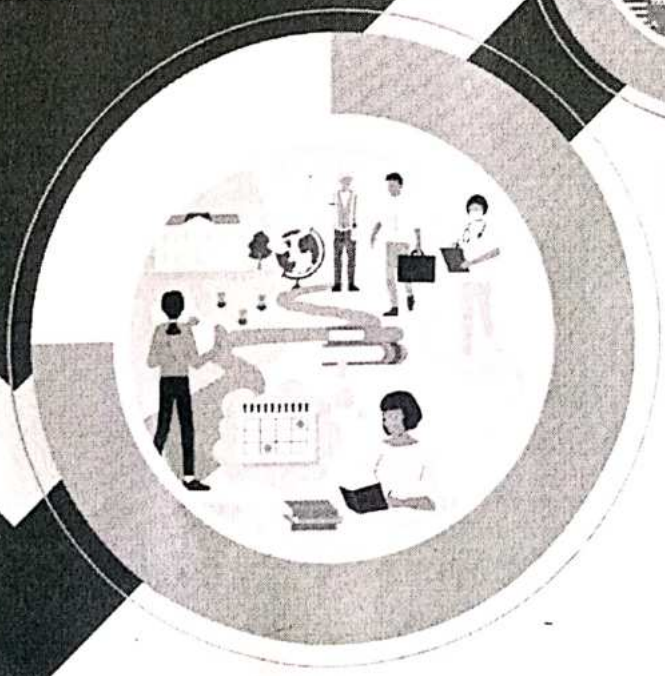
Group No.	Register No.	Name of the Student	CSP Title	Name of the Guide	place of work
23	21H75A0331	M R Kasturi Rangan	Soil conservation	**K. Sirisha**	konduru
	21H75A0310	Chethan Karthik Mekala			
	21H75A0304	Arun Kumar Daggumati			
24	21H75A0327	Karthik Adari	Socio Economic Surveyy	**M. Koteswara Rao**	Kanchikacherla
	21H75A0349	Raviteja Butti			
	21H75A0323	Jaya Rajesh Menti			
25	21H75A0345	Rama Krishna Burre	Global warminng	**P. Raj Kumar**	konduru
	21H75A0320	Hemanthkumar Gorrela			
	21H75A0338	Nanda Mohan Devineni			
26	21H75A0333	Manikanta Loya	Public Distribrition system	**Dr. D. V. Siva Reddy**	kondapalli,IBM
	21H75A0311	Devendra Kumar Gorantla			
	21H75A0336	N Pothu Raju J B			
27	21H75A0339	Nazim Sayyed	Modernization of Water supply	**R. Ranjith Kumar**	Tata motors limited,jaggayyapeta
	21H75A0324	Jyotheswar Baddireddy			
	21H75A0308	Bhargava Krishna P			
28	21H75A0352	Saikumar Perivi	Mechanization of Agriculture Tools & Awareness of career guidance	**K. Supriya**	Z.P.H.School,kanchikacherla
	21H75A0348	Rathna Raju Konka			
	21H75A0309	Charan Mikkili			
29	21H75A0305	Bala Murali Krishna Kanakala	Mechanization of Farming	**A. Naga Pavan Kumar**	konduru
	21H75A0315	Gowtham Reddy Mullangi			
	21H75A0350	Sai Kiran Mulagada			
30	21H75A0325	Jyothi Babu Davu	Modernization of Water supply	**D. Divya**	vijayawada
	21H75A0301	Ahmad Khan Pathan			
	21H75A0340	Praveen Ganji			
31	21H75A0326	Kamesh Pusarla	Socio Economic Surveyy	**K. Madhuri**	Penumaka-1,Tadepalli
	21H75A0332	Madan Singh Kshatri			
	21H75A0313	Durga Prasad Chennuboina			

Project co-ordinator HOD, ME

Total Number of Students Registered for CSP _____

Model Program Book

COMMUNITY SERVICE PROJECT



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PROGRAM BOOK
FOR
COMMUNITY SERVICE PROJECT

Name of the Student: D. Nanda Mohan
B. Rama krishna
J. Pothu Raju

Name of the College: DVR & Dr. HS MIC COLLEGE OF TECHNOLOGY

Registration Number: 21H75A0338
21H75A0345
21H75A0336

Period of CSP: 4 weeks **From:** 30-07-22 **To:** 13-08-2022

From: 09-01-2023 **To:** 21-01-2023

Name & Address of the Community/ Habitation: Konduru village

JNTU - KAKINADA

YEAR: 2022 - 2023

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Instructions to Students for Community Service Project

Please read the detailed Guidelines on Community Service Project hosted onthe website of AP State Council of Higher Education https://apsche.ap.gov.in

Link: https://apsche.ap.gov.in/Pdf/Guidelines%20for%20the%20OJT%20Internship%20Community%20Service%20Project.pdf

1. It is mandatory for all the students to complete 180 hours of Community Service Project as a part of the internship/on the job training.
2. Consider yourself a committed volunteer in the community, you work with.
3. Every student should identify the village/community/habitation for Community Service Project (CSP) in consultation with the College Principal/the authorized person nominated by the Principal.
4. Report to the community/habitation as per the schedule given by the College. You must make your own arrangements for transportation to reach the community/habitation.
5. You will be assigned a Faculty Guide from your College. He/She will be creating a WhatsApp group with your fellow volunteers. Post your daily activity done and/or any difficulty you encounter during the programme.
6. You should maintain punctuality in attending the CSP. Daily attendance is compulsory.
7. You are expected to learn about the community/habitation and their problems.
8. Know the leaders and the officials of the community/habitation.
9. While in the project, always wear your College Identity Card.
10. If your College has a prescribed dress as uniform, wear the uniform daily.
11. Identify at least five learning objectives in consultation with your Faculty Guide. These learning objectives can address:
    - Information about the community, including the realities and problems of the society.
    - Need for creating awareness on socially relevant aspects/programs.
    - Acquiring specific Life Skills.
    - Learning areas of application of knowledge and technologies related to your discipline.
    - Identifying developmental needs of the community/habitation.

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12. Practice professional communication skills with team members, and with the leaders and officials of the community. This includes expressing thoughts and ideas effectively through oral, written, and non-verbal communication, and utilizing listening skills.
13. **Be regular in filling up your Program Book. It shall be filled up in your own handwriting. Add additional sheets wherever necessary.**
14. At the end of Community Service Project, you shall be evaluated by the person in-charge of the community/habitation to whom you report to.
15. There shall also be an evaluation at the end of the community service bythe Faculty Guide and the Principal.
16. Do not indulge in any political activities.
17. Ensure that you do not cause any disturbance to the inhabitants or households during your interaction or collection of data.
18. Be cordial but not too intimate with the people you come across during your service activities.
19. You should understand that during this activity, you are the ambassador of your College, and your behavior during the community service programme is of utmost importance.
20. If you are involved in any discipline related issues, you will bewithdrawn from the programme immediately and disciplinary action shall be initiated.
21. Do not forget to keep up your family pride and prestige of your College.
22. Remember that you are rendering valuable service to the society and your role in the community development will become part of the history of the community.

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Community Service Project Report

Submitted in accordance with the requirement for the degree of..B-.Tech

Name of the College: DVR & Dr. HS MIC COLLEGE OF TECHNOLOGY

Department: MECHANICAL ENGINEERING

Name of the Faculty Guide: P. Raj Kumar

Duration of the CSP: 6 weeks From: 30/07/22 To: 22/01/23

Name of the Student: D. Nanda Mohan, B. Rama krishna, J. Pothu Raju

Programme of Study: B-Tech Awareness about global warming

Year of Study: 2022 - 2023

Register Number: 21H75A0338
21H75A0345, 21H75A0336

Date of Submission: 10/02/2023

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Student's Declaration

I, D. Nanda Mohan, B. Rama krishna, J. Pothu Raju a student of Community Service Program,

Reg. No. 21H75A0338, 21H75A0346, 21H75A0336 of the Department of Mechanical Engineering

DVR & Dr. HS MIC College do hereby declare that I have completed

the mandatory community service from 30/7/22 to 22/01/23 in

Konduru *(Name of the Community/ Habitation)* under the Faculty

Guideship of P. Raj kumar, *(Name of the Faculty Guide)*, Department

of Mechanical Engineering in,

DVR & Dr. HS MIC college of technology College.

D. Nandamohan.
B. Ramakrishna
J. Pothuraju
(Signature and Date)

Endorsements

P. Raj
CSP- Faculty Guide

Head of the Department
Dept. of Mechanical Engg.
DVR & Dr. HS MIC College of Technology
Kanchikacherla, Krishna Dt.
Andhra Pradesh, India – Pin: 521180.

Head of the Department

10/2/23
Principal

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Certificate from
Official of the Community

This is to certify that D. Nanda Mohan, B. Rama Krishna, J. Pothu Raju (*Name of the Community Service Volunteer*) Reg. No 21H75A0338, 21H75A0345, 21H75A0336 of DVR & Dr. HS MIC College of technology (Name of the College) underwent community service in Kondiru (*Name of the Community*) from 30/07/22 to 13/08/2022 (Phase-I) and from 09/01/2023 to 21/01/2023 (Phase-II). The overall performance of the Community Service Volunteer during his/her community service is found to be good (*Satisfactory/Good*).

K. Acharao

Authorized Signatory with Date and Seal

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Acknowledgements

We wish to express our sincere gratitude to our esteemed guide P. Raj Kumar for his valuable guidance, encouragement and gracious support throughout the work. His valuable suggestions, effusive co-ordination and encouraging interactions were a great driving once for us to carry out this Community Service Project.

We are grateful to Dr. D.V. Siva Reddy Head of the Mechanical Engineering Department, for his support and permitting us to take up our project work and to complete the project successfully.

We express our sincere thanks to Dr. K. Srinivas Principal, DVR & Dr. HS MIC College of Technology, Kanchikacherla.

We are also thankful to K. Acha Rao official of the community, who gives support to us during this work and others who assisted us in this community project work.

D. Nandamohan
B. Ramakrishna
J. Pothu Raju
Project Members

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CHAPTER-1

Executive Summary

Community service programs can expand the oppurnities for youth to acquire personal and social assets to experience the broad range of features of positive developmental activities.

The activities we performed in the community service project are we went to a Korduru village to create awareness on an global warming to the villagers in that village. Global warming is one of the main cause of ozone depletion and hazards in the earth's atmosphere so we created some awareness to the villagers by explaining them what is global warming, it's causes, effects and disadvantages, safety measurements and to overcome the global warming. Some guide lines are giving them and also giving some awareness about the water and air pollutions.

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CHAPTER-2

Overview of the Community

Community service project involves students in community development and service activities and applies the experience to personal and academic development.

To make students socially responsible citizens who are sensitive to the needs of the needs of the disadvantage sections. To help the students to initiate development activities in the community in co-ordination with the public & government. so far so good it has been a ride into the world of self sacrifice so many things have been said about what community service is it benfits to the individual & the contribution our own part at all times for the growth and development of are still such goal has been the subject of discussed titled

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CHAPTER-3

Community Service Part

Community service project is to create awareness to students on global warming, water & air pollution, etc and also as well as to know about the methods of cultivation and their problems from the farmers these are the basic things in the community service

Supervision was a major problem in rural areas through loss of an issue in urban centres where there was no other full time dentist. In rural areas many farmers are there knowing their problems and modern methods of cultivation is also part of the community service project. and this makes students who are studying to make students socially responsible citizens. It also develops communicating skills and individuality.

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CHAPTER-4

ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	Introduction to awareness about the global warming.	It is a long-term healing of earth's surface observed by the humans.	K. Acharya [redacted]
Day - 2	Causes of global warming	It can result in many serious alterations to environment.	K. Acharya [redacted]
Day – 3	Effects of global warming	Increased the loss of species healthy risk	K. Acharya [redacted]
Day – 4	Soil pollution caused by the global warming.	Depletion of fertility of soil because of pollution.	K. Acharya [redacted]
Day – 5	water pollution caused by the global warming.	Contamination of water causes damage to global warming.	K. Acharya [redacted]
Day –6	Safety measurements to upcoming the global warming.	To grow the forests frequently to decreasing the global warming	K. Acharya [redacted]

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WEEKLY REPORT

WEEK – 1 (From Dt. 30/07/22 to Dt 05/08/22)

Objective of the Activity Done:

Detailed Report:

Service project learning is a process of involving students in community service activities combined with facilated means for applying the experience to their academic and personnel development. it is a form of experimental education aimed at enhancing & enriching student learing in course material when compared to other forms of experimental learing like internships and cooperative education.

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ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	Air pollution caused by the global warming.	It is caused by the harmful gases & liquids.	K. Acharya గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day - 2	Plastic pollution caused by the global warming	It is the accumulation of plastic objects & plastic particles.	K. Acharya గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day – 3	Global warming caused by the wasbe of industries.	Pollution where the source originates directly led from the industries.	K. Acharya గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day – 4	Ozone layer depletion	Thining of the ozone layer present in the upper atmosphere.	K. Acharya గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day – 5	Disadvantages of global warming.	More frequent & intensed rough storms, heat waves.	K. Acharya గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day –6	Preventions and safety tips taking to avoid the global warming.	Planting the trees, avoid plastics.	K. Acharya గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.

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WEEKLY REPORT

WEEK – 2 (From Dt.06/08/22 to Dt 13/08/22.)

Objective of the Activity Done:

Detailed Report:

In this week we visited a village kondurru to create awareness to the students and villagers on global warming which is the long-term heating of earth's surface observed since the pre-industrial due to human activities. it is caused by increased concentrations of green house gases in the atmosphere, mainly from human activities such as burning fossil fuels and farming these are concepts. we explained to the students and villagers and also about air, water, and soil pollution which are main cause of global warming.

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ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Awareness about the water pollution.	It is a longterm polluting of water from the earth's surface	K. Achare సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day - 2	Causes of water pollution.	It can result in many serious alterations to the environment.	K. Achare సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day - 3	Effects of water pollution.	It is caused by the different types of health issues.	K. Achare సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day - 4	Water pollution caused by the plastics.	It is the accumulation of plastics are mixed up with water.	K. Achare సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day - 5	Water pollution caused by the industrial wastage.	Pollution where the source originates directly mixed in the rivers, etc	K. Achare సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day - 6	Safety precautions taken to avoid water pollution.	wastewater treatment, plastic waste reduction, etc	K. Achare సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.

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WEEKLY REPORT

WEEK – 3 (From Dt. 09/01/23 to Dt 15/01/23)

Objective of the Activity Done:

Detailed Report:

In third week we visited a village kondurru to create awareness to the villagers on global warming which is the long-term heating of earth's surface observed the time indeistrial by due to human activities. It is caused by increased concentrations of green house gases in the atmosphere of mainly from human activities such as burning of fossil fuels and forming these concepts and are discussed with the villagers and also about ozone deptetion, disadvantages and about safety precautions, prevention tips to avoid the global warming in the atmosphere

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ACTIVITY LOG FOR THE FORTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Awareness about the air pollution.	It is a longterm pollution of air from the earth atmosphere.	K. Acharya సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day - 2	Causes of air pollution.	It can result in many serious alterations to environment.	K. Acharya సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day - 3	Effects of air pollution.	Increased the risks of health issues.	K. Acharya సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day - 4	Global warming caused by the air pollution.	It is caused by the harmful gases & liquids & solids.	K. Acharya సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day - 5	Disadvantages of air pollution.	More frequent & increased heat waves.	K. Acharya సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day - 6	Preventions & safety tips taken to avoid air pollution.	Growing plants, eco friendly transportation, etc	K. Acharya సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.

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WEEKLY REPORT

WEEK – 4 (From Dt. 16/01/23 to Dt 23/01/23)

Objective of the Activity Done:

Detailed Report:

This is fourth week of the community service project and we gathered to went to a village Kondure and we created awareness about air pollution. we discussed about air pollution, it's causes and effects and it's disadvantages, safety precautions and safety tips, and to discuss how to prevent air pollution to the villagers and we discussed these concepts with the villagers.

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ACTIVITY LOG FOR THE FIFTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	Awareness about the global warming.	It is a process of heating the earth's surface observed by the humans.	K. Acharya సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day - 2	Causes of global warming	It can result in many serious alterations to the environment.	K. Acharya సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day – 3	Effects of global warming.	It increased the risks of health issues.	K. Acharya సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day – 4	Global warming caused by the soil pollution.	Depletion of fertility of the soil	K. Acharya సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day – 5	Global warming caused by the water pollution.	Global warming causes of damage to the water.	K. Acharya సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day –6	Global warming caused by the air pollution.	It is caused by harmful solids, liquids & gases.	K. Acharya సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.

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WEEKLY REPORT

WEEK – 5 (From Dt. 09/01/23. to Dt 15/01/23.)

Objective of the Activity Done:

Detailed Report:

In this week we visited a village Kondurru. to create awareness to the students on global warming which is the long term heating of earth's surface observed since the time industrial due to human activities. it is caused by increased concentrations of green house gases in the atmosphere mainly from human activities such as burning fossil fuels and forming these are concepts we are explained to the villagers and also about air, water and soil pollution which are main cause of global warming.

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ACTIVITY LOG FOR THE SIXTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Noise pollution caused by the global warming.	It is an invisible danger caused by unwanted sounds.	K. Athelo సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day - 2	Plastic pollution caused by the global warming.	It is the accumulation of plastic objects & particles.	K. Athelo సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ
Day - 3	Global warming Caused by the industrial wastage	Pollution whose source originates directly from the industry.	K. Athelo సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ
Day - 4	Ozone layer depletion.	Thining of the ozone layer present in the upper atmosphere.	K. Athelo సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ
Day - 5	Disadvantages of global warming.	More frequent & intensed rough storms & heat waves.	K. Athelo సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.
Day - 6	Prevention & safety measurements taken to avoid global warming.	Planting trees. avoid plastic, etc.	K. Athelo సర్పంచ్ గ్రామ పంచాయితీ, కొండూరు, నందిగామ మం॥, కృష్ణాజిల్లా.

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WEEKLY REPORT

WEEK – 6 (From Dt. 16/01/23 to Dt. 23/01/23)

Objective of the Activity Done:

Detailed Report:

In this week we visited a village Konduru to creab awareness to the students and villagers on global warming which the long term heating of earth's surface observed since the industrial caused due to the human activities. it is caused by increased concentrations of green house gases in the atmosphere of mainly from human activities such as burning of fossil fuels and we are discussed with the villagers and also ozone layer depletion, disadvantages, and prevention of global warming.

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CHAPTER-5

Outcomes Description

Global warming has led to an increased in earth's temperature since 1880 the earth's temperature has increased in the melting of glacier's which have led to an increase in the sea level. this could have disarable effects on costal regions. we already see the effects scientists predicted such as the loss of sea ice, melting glacier's and ice sheets sea level rise and more intense heat waves is one of the major outcome is to create some awareness to the future generation. Global warming is not something to take lightly the oceans are warming the polar ice can be melting and green house gas levels are at an all time high. these are just some of the things caused by the global warming have been said to the villagers.

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CHAPTER-6

Recommendations and Conclusions

Global warming is not something to take lightly. the oceans are warming the polar ice caps are melting and green house gas levels are ab an all time high these are just some of the things that the claims makers for the global warming cause have said the science has proven them right so the ultimabe claim is that humans are a large factor in the increased rabe of global warming. these are claims maker of all kinds fighting about wheather that is true or not. the solutions proposed to do nothing. this is issued has turned political and it seems like nothing gets done untill someone who believes in global warming.

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CHAPTER-7

Student Self-Evaluation for the Community Service Project

Student Name: D. Nanda Mohan, B. Rama Krishna, J. Pothu Raju

Registration No: 21H75A0338, 21H75A0345, 21H75A0336

Period of CSP: 6 weeks

Date of Evaluation:

Please rate your performance in the following areas:

Rating Scale: **Letter grade of CGPA calculation to be provided**

1	**Oral communication**	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	**Proactiveness**	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	**Positive Attitude**	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	**Ability to learn**	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	**Professionalism**	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	**Quality of work done**	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	**Understanding the Community**	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

D. Nandamohan
B. Ramakrishna
J. Pothu Raju

Date:

Signature of the Student

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CHAPTER-8

Evaluation by the Person in-charge in the Community / Habitation

Student Name: D. Nando Mohan, B. Rama Krishna, J. Pothu Raju

Registration No: 21H75A0338, 21H75A0345, 21H75A0336

Period of CSP: 6 weeks

Date of Evaluation:

Name of the Person in-charge: K. Acha Rao
Address with mobile number:

Please rate the student's performance in the following areas:

Please note that your evaluation shall be done independent of the Student's self-evaluation

Rating Scale: 1 is lowest and 5 is highest rank

1	**Oral communication**	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	**Proactiveness**	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	**Positive Attitude**	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	**Ability to learn**	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	**Professionalism**	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	**Quality of work done**	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	**Understanding the Community**	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

Date:

Signature of the Supervisor

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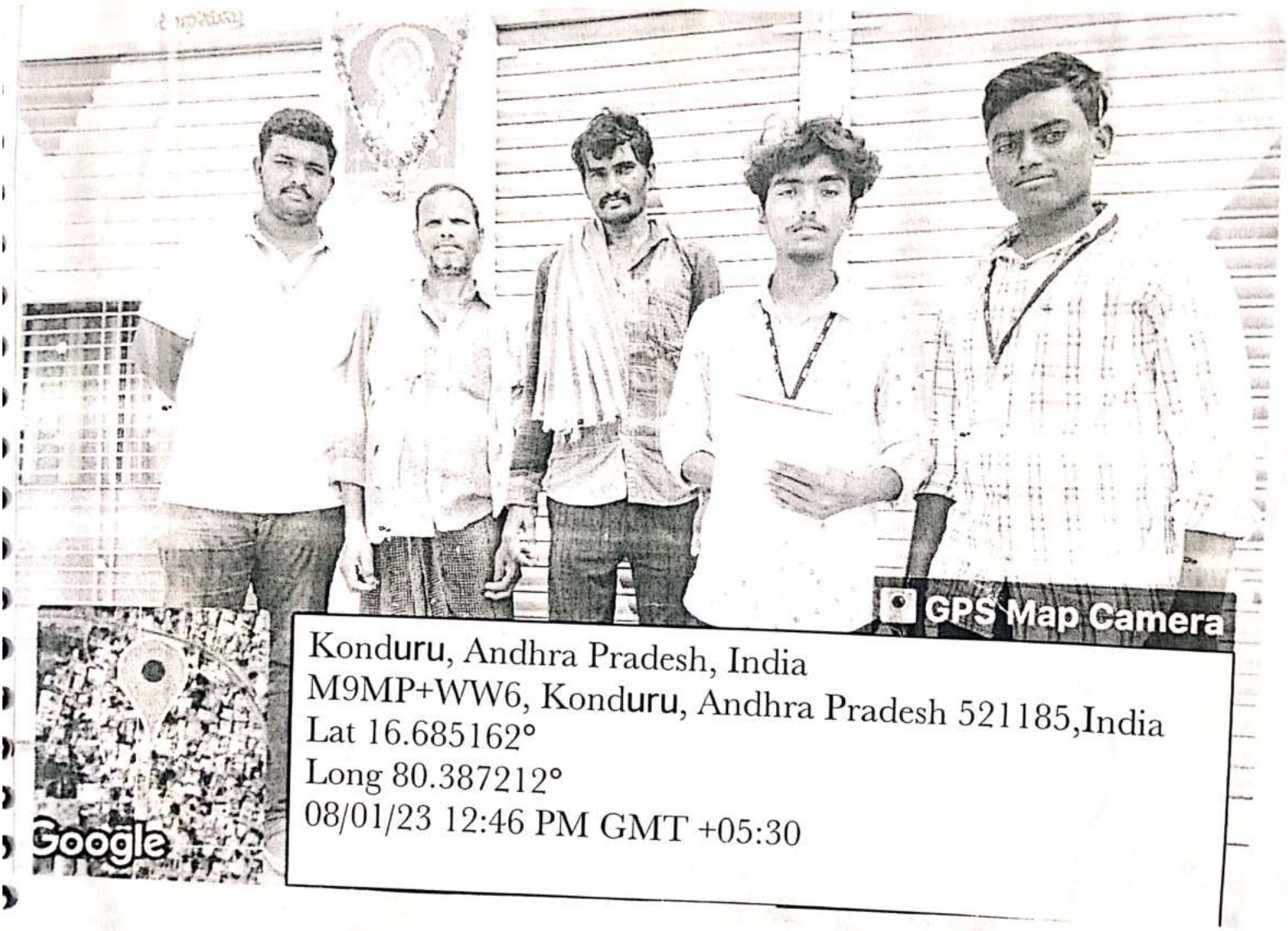
CHAPTER-9

Photos & Video Links



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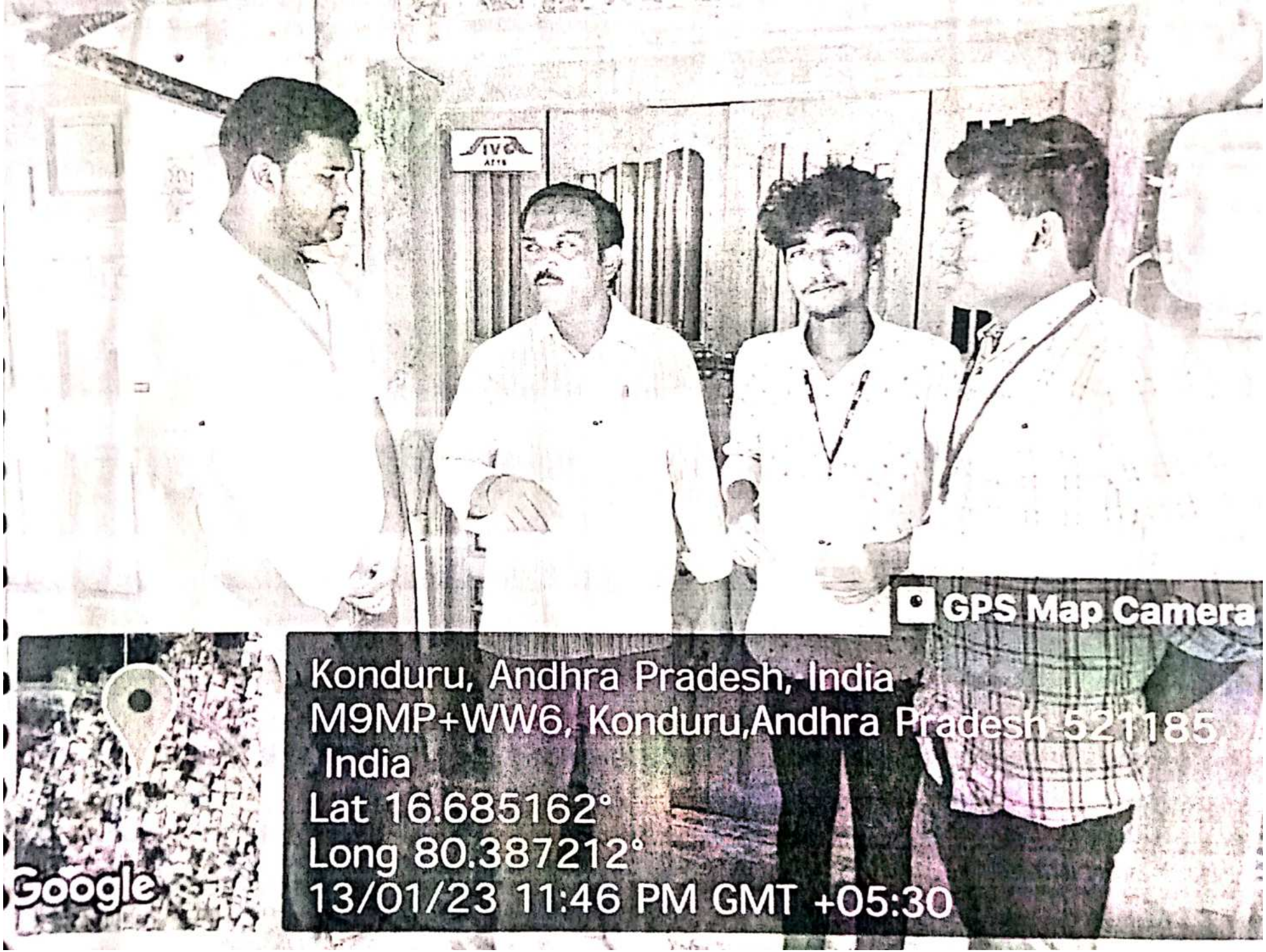

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BOARD FOR COMMUNITY DEVELOPMENT *through* EDUCATION
GOVERNMENT OF ANDHRA PRADESH
2nd floor, Neeladri Towers, Sri Ram Nagar, 6th Battalion Road, Atmakur (V), Mangalagiri (M),
Guntur Dt. A.P.– 522 503, E-mail: **secretarybcd2021@gmail.com;** Mobile: 9440285609

HOME ENERGY AUDIT - WORKSHEET

OBJECTIVES:

To estimate Energy consumption for a house;

To understand peak energy consumption pattern;

To identify ways and means of Energy Conservation;

To propose action plan for Energy Conservation;

To measure the savings after implementation of Energy conservation tips.

INTRODUCTION:

Energy is an important commodity in this modern era. As the utility of energy is continuously increasing due to reasons like population growth, increase in usage of electrical equipment, mechanization, enhancement in comfort living requirements etc., The Energy production is not increasing to meet such peak increase in usage of Energy. It is leading to huge gap between Energy Demand and Supply. Hence it is every citizens responsibility to reduce the gap between energy demand and supply by conserving energy as much as possible. In order to implement energy conservation it is necessary to understand the consumption patterns and possible avenues of conservation. Energy Audit is one best way to achieve this.

An energy audit is a way to calculate how much energy being used at home. It will help the citizen to identify how much energy each home uses and where could be saving energy possible. It is the first step to making the home, the school or any other area more energy efficient.

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Activity 1: Calculate the Amps and energy used by all of these appliances in one day:

Equation for calculating energy

- Energy (kWh) = (Power (watts) x time x number of appliances) ÷ 1000

Appliance	Power (W)	Number of appliances	Time used (hour)	Energy (kWh)
Ceiling Fan	**80W**	**2**	**5**	**(80 x 5x 2) ÷ 1000 = 0.8 kWh**
Desktop computer	300W	0	0	(300×0×0)/1000 = 0 kwh
LED bulb	10W	4	6	(10×4×6)/1000 = 0.24 kwh
Tube light	40W	2	5	(40×2×5)/1000 = 0.4 kwh
Television	200 W	1	4	(200×1×4)/1000 = 0.8 kw
Washing Machine	320W	0	0	0 kwh
Microwave	1400W	0	0	0 kwh
Refrigerator	2000W	1	8	(2000×1×8)/1000 = 16 kwh
Immersion Water Heater	1000W	0	0	0 kwh
Geyser	3000W	0	0	0 kwh

Activity 2: Questions

1. Which were the three appliances that used the most energy? What are they used for ?

Refrigerator, television, tube light, these are used for cooling of vegetables, entertainment & for light.

2. a) What was the total energy used by all of the appliances

* Note – it is likely that your energy usage may be higher than the calculated value as you may have other appliances that are not included in this table. This worksheet provides an approximate value.

16.64 kwh

b) Calculate how many kWh of energy are consumed on average in a month

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558.2 kwh is consumed on average in a month

c) Check your electricity bill and compare it to the monthly energy usage that you calculated.

Your total monthly energy usage from your calculation in 2(b)	558.2
Your total monthly energy usage from electricity bill	₹ 800

An average household in Mumbai city consumes 298kWh of electricity every month and releases about 244kgs of CO_2e (1kWh releases 0.82 kg CO_2e)

3. Write down ideas for reducing energy consumption for appliances in each category:

Device	Ideas to reduce energy
Example: Washing Machine	I could hand wash my clothes some days. Also, I could make sure my family runs bigger loads of washing so that we do not waste water.
Heating and cooling	For cooling, usage of refrigerator is reduced by not keeping hot items.
Screen-based	Reducing the usage of screen based appliences like computer, television, etc
Lighting	**Did you know, switching off a device from the source at plug reduces consumption of electricity by an average of 10% Use when there is need, using only LED bulbs.

4. Choose two ways that you will reduce your energy bill by 10. %

→ Using solar pannels.

→ Less usage of high power consuming appliences.

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CONDUCT SIMILAR STUDY AFTER IMPLEMENTING THE ENERGY CONSERVATION MEASURES AND MONITOR HOW MUCH IS THE SAVING.

5. Comparing electricity bills before and after your energy conservation efforts:

Before:	₹ 800
After one month:	₹ 600
Total money saved:	₹ 200

TOTAL ENERGY SAVINGS FOR THE WARD / VILLAGE AND ALSO REDUCTION IN CARBON EMISSIONS MAY BE CALCULATED AND SUBMITTED TO THE FACULTY MENTOR / WARD / VILLAGE SECRETARY.

THE SAME CAN BE SUBMITTED IN THE FORMAT OF COMMUNITY SERVICE PROJECT AT COLLEGE

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BOARD FOR COMMUNITY DEVELOPMENT *through* EDUCATION
GOVERNMENT OF ANDHRA PRADESH
2nd floor, Neeladri Towers, Sri Ram Nagar, 6th Battalion Road, Atmakur (V), Mangalagiri (M),
Guntur Dt. A.P.– 522 503, E-mail: secretarybcd2021@gmail.com; Mobile: 9440285609

ELECTRICAL ENERGY - SAVING TIPS

(Source: BEE India)

LIGHTING SYSTEM

1. One of the best energy-saving devices in lighting is the switch. Turn off lights when not required.
2. Efficient Fluorescent tube lights such as T5, CFLs and LEDs are much more efficient than incandescent bulbs and can save about 60-80% of electricity for the same lighting levels.
3. Electronic ballasts can reduce power consumption by 20%.
4. Consider employing infrared sensors, motion sensors, automatic timers, dimmers and photocells switches wherever applicable for efficient use. Use outdoor lights with timers or photocells so that they turn off automatically in day light and avoid using curtains during the day.
5. Use task lighting, which focuses light where it is needed. A reading lamp, for example, lights only reading material rather than the whole room.
6. Dirty tube lights and bulbs deliver less light and can absorb about 50 percent of the light; dust tube lights and lamps regularly.
7. Look for BEE rating on the Tubular Fluorescent Lamps.
8. Use artificial lighting only when there is inadequate natural light in a space.
9. Don't replace tube lights (line source) which light over a larger linear spread with a bulb (point source) that emits light from a single point.
10. Don't use dark-colored surface in workrooms. These reduce the reflected light levels and increase the number of lamps required to illuminate the space.
11. Children are advised to study in one room and with individual table lamps and advise them to switch off the individual lamps when not required. Children to utilize morning hours & broad day light for studies rather than using artificial light.
12. Switch off alternate tube Lights/lamps in common areas and staircases during late hours in the night.
13. Please note, a 'Zero Watt' incandescent bulb uses about 10 to 15 watt while an LED bulb of 9 watt can provide light output equivalent to 60 watt incandescent bulb.

CEILING FAN

1. Replace conventional regulators with electronic regulators for ceiling fans.
2. Height of the fan relative to the ceiling. If fan is too close to the ceiling, the airflow is restricted; that is, the fan will not be able to draw as much air through its blade as it has the potential to do. For this reason, 'Hugger' style fans (those which mounted directly to the ceiling without the use of down rod) are all inherently disadvantaged. The distance that a fan should be mounted form the ceiling is directly correlated with its air moving potential; no fan should be mounted with its blade closer than 24 inches to the ceiling.
3. Pitch of the fan's blades. The angle at which the fan's blades tilted relative to X axis is referred to as the blade pitch. The steeper the pitch, the greater the air flow.
   Since increased pitch also means increased drag, only fans with well-made motors can support steep pitches. Cheaply made fans typically have a pitch between 9 and 13 degrees.

AIR CONDITIONER

1. Use BEE star labeled products.
2. Use ceiling or table fan as first line of defense against summer heat. Ceiling fans, for instance, cost about 3 rupees an hour to operate – much less than air conditions (Rs.100 per hour).
3. One will use 3 to 5 per cent less energy for each degree air conditioner is set above 22°C (71.5°F), so far set the thermostat of room air conditioner at 25°C (77°F) to provide the most comfort at the least cost.
4. Reduce air-conditioning energy use by as much as 40 per cent by shading your home as windows and walls. Plant trees and shrubs, to keep the day's hottest sun off your house.
5. Using ceiling or room fans allows you to set the thermostat higher because the air movement will cool the

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room.

6. A good air conditioner will cool and dehumidify a room in about 30 minutes, so use a timer and leave the unit off for some time.
7. Clean the air-conditioner filter every month. A dirty air filter reduces airflow and may damage the unit. Clean filters enable the unit to cool down quickly and use less energy.
8. Have your air conditioning unit checked every 6 months. If the Freon level is not correct, you will waste a lot of energy and your home will never be as cool as you want it.
9. The gaps around the windows and doors leads to A C loss. You can use a candle to look for drafts. It the flame flickers or dances, found the place to seal.
10. Draperies on windows help reduce energy loss.
11. Use electronic devices with occupancy sensors which switch on or off automatically by sensing if the room is occupied.
12. Switch to evaporative coolers from air conditioners during hot/dry summer months.
13. Buy split ACs instead of window ACs. They cost more, but they are more energy efficient and consume lesser electricity.
14. Do not install AC units on the west and south walls as these are exposed to direct sunlight through a major part of the day during summers.
15. Do not apply dark colors on the external surfaces (roof and walls) of the house. Dark colors absorb more heat than light colors, leading to increased use of the AC.
16. Ensure that the condenser of the unit must have enough space around it for air to circulate and help the refrigerant dissipate its heat easily.

REFRIGERATOR

1. Use BEE star labelled products.
2. Keep your refrigerator and freezer at the right temperature. If they are only 2-3 degrees colder than necessary, energy consumption may go up by approx 25%.
3. Make sure the door is sealed tightly. When it's dark, place a lit flashlight inside the refrigerator and close the door. If light around the door is seen, the seals need to be replaced.
4. Make sure that the refrigerator is not place against outside facing wall or walls exposed to the direct sunlight.
5. Refrigerator motors and compressors generate heat, so allow enough space for continuous airflow around refrigerator. If the heat can't escape, the refrigerator's cooling system will work harder and use more energy.
6. Do no put uncovered liquids in the refrigerator. The liquids give off vapors that add to the compressor workload.
7. Allow hot food to cool off before putting it in the refrigerator.
8. Think about what you need before opening refrigerator door. You'll reduce the amount of time the door remains open.
9. Make sure that refrigerator's rubber door seals are clean and tight. They should hold a slip of paper snugly. If paper slips out easily, replace the door seals.
10. When dust builds up on refrigerator's condenser coils, the motor works harder and uses more electricity. Clean the coils regularly to make sure that air can circulate freely.
11. Defrost freezer compartment regularly for a manual defrost refrigerator.
12. Make sure that you are using a refrigerator that is approximately sized for your needs. If your fridge is too small, you may be overworking. If it is too large, then you are potentially wasting energy and home space.

OVENS / MICROWAVE OVEN

1. Microwaves use around 50% less energy than conventional ovens: they are most efficient for small portions or defrosting.
2. Check the seal on your oven door to see if there are cracks or tears in it.
3. Develop the habit of 'lids-on' cooking to permit lower temperature settings.
4. Carefully measure water used for cooking to avoid having to heat more than is needed.
5. Begin cooking on highest heat until liquid begins to boil. Then lower the heat control settings and allow food to simmer until fully cooked.

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6. Rearrange oven shelves before turning your oven on and don't peep at food in the oven! Every time you open the oven door, 4°-5° is lost
7. When preheating an oven for baking, time the preheat period carefully. Five to eight minutes should be sufficient.
8. For large items, stove-top cooking is most efficient, especially with gas.
9. For large items, stove-top cooking is most efficient, especially with gas.

WASHING MACHINES

1. Washing machines can account for as much as 20% of the electricity you use.
2. Use Cold water, as almost 90% of the energy consumed by washing machines goes to heating the water. Set the washing machine temperature to cold or warm and the rinse temperature to cold as often as possible.
3. Each was cycle uses up to 60 to 90 liters of water. Use washing machine on full load and plan washing periodicity to save on water too.
4. Adding too much detergent actually hampers effective washing action and may require more energy in the form of extra rinses.
5. Wash only full loads of clothing-but do not overload machine. Sort laundry and schedule washes so that a complete job can be done with a few cycles of the machine carrying its full capacity, rather than a greater number of cycle with light loads.
6. Soak or pre-wash the cloths for effective cleaning.

COOKING

1. Organized cooking activity can save about 20% Energy.
2. Use right quantity of water required for cooking and reduce gas / kerosene usage by 65%.
3. Cook on low flame as far as possible and save 6 to 10% energy.
4. The pressure cooker should be loaded 2/3rd of the foodstuff is solid & hard and Â½ if loaded with liquid. Properly used pressure cookers can save up to 50 to 75% of energy as well as time.
5. Cook your food in solar cooker and save cost of 2 LPG Cylinders annually.
6. When cooking on a gas burner, use moderate flame settings to conserve LPG.
7. Remember that a blue flame means your gas stove is operating efficiently.
8. Yellowish flame is an indicator at the burner need cleaning.
9. Use pressure cooker as much as possible.
10. Use lids to cover the pans while cooking.
11. Bring items taken out of refrigerators (like vegetables, milk etc) to room temperature before placing on the gas stove for heating.

GEYSER / WATER HEATER

1. Install Solar Water Heating System.
2. By reducing the temperature setting of water heater from 60 degrees to 50 degrees C, one could save over 18 percent of the energy used at the higher setting.
3. To help reduce heat loss, always insulate hot water pipes, especially where they run through unheated areas. Never insulate plastic pipes.
4. A dripping faucet wastes water and if it's dripping hot water, its wasting energy too. Often requiring nothing more then a new washer, fixing leaks is one of the quickest and least expensive ways of reducing the energy and water bills.
5. Another way to reduce waste is to take showers or baths depending on which uses less hot water then baths, other way baths use more. They are both right. Which is correct for you depends on how long and hot your showers are and how deep deep and warm your baths are.
6. Using less hot water may be easier than you think. Water conserving shower heads and faucet aerators can cut hot water use inn half.. To see if this will work for you, first determine what your faucet and shower flow rates are now.
7. To select the right water heater for your home, you need to consider family size and whether your usage would be considered high or low demand. It is assumed that you know your family size, so all you have to determine is your usage profile.

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COMPUTER

1. Computer that runs 24 hours a day, for instance, used-more power than an energy efficient refrigerator.
2. Screen savers save computer screens, not energy. Start-ups and shutdown do not use any extra energy, nor are they hard on your computer components. In fact, shutting computers down when you are finished using them actually reduces system wear and saves energy.
3. Purchase flat-screen LCD monitors.
4. Setting computers, monitors and copiers to sleep-mode when not in use helps cut energy costs by approximately 40%
5. Activate and standardize 'power down' on new and existing PCs
6. If your computer must be left on, turn off the monitor; this device alone uses more than half the system's energy.

--- Compiled by
Prof. M.L.S.Deva Kumar, JNTUA Ananthapuramu

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ANDHRA PRADESH
STATE COUNCIL OF HIGHER EDUCATION

(A Statuory Body of the Government of Andhra Pradesh)

2nd, 3rd, 4th and 5th floors, Neeladri Towers, Sri Ram Nagar, 6th Battalion Road
Atmakur (V)Mangalagiri (M), Guntur, Andhra Pradesh, Pin - 522 503
www.apsche.ap.gov.in

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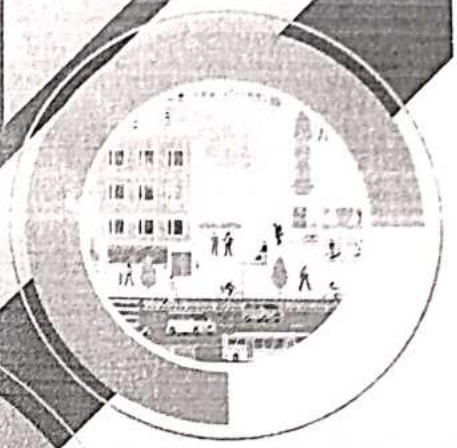
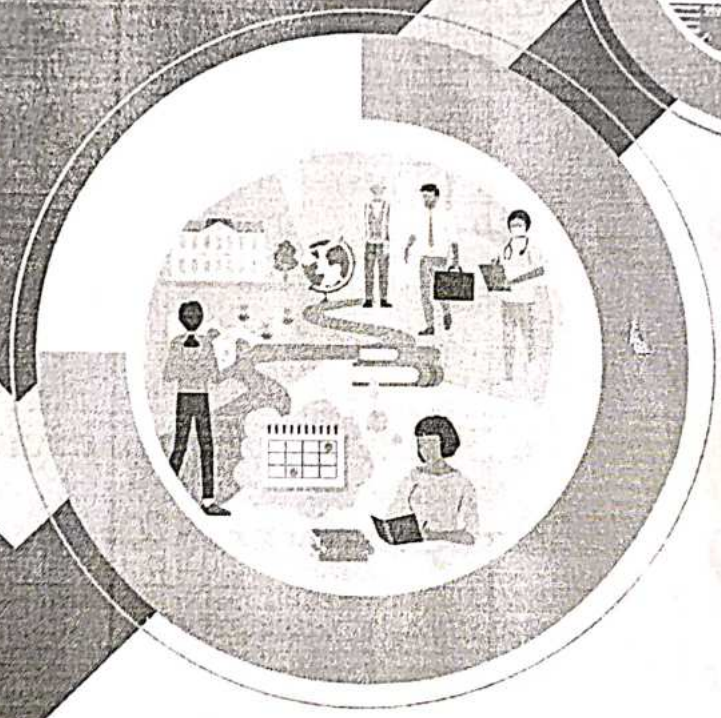
Model Program Book

COMMUNITY SERVICE PROJECT





Designed & Developed by

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

(A STATUTORY BODY OF GOVERNMENT OF ANDHRA PRADESH)

DVR & Dr. HS
MIC College of Technology
ISO 9001:2015 Certified Institute
(Approved by AICTE & Permanently Affiliated to JNTUK, Kakinada)
Kanchikacherla - 521180, NTR Dist, A.P, India.
Phones: 08678 - 273535 / 94914 57799 / 73826 16824
E mail: office@mictech.ac.in, Website: www.mictech.edu.in

AUTONOMOUS
Accredited by NAAC With Grade A

PROGRAM BOOK
FOR
COMMUNITY SERVICE PROJECT

Name of the Student: K. Suvarchala Devi

Name of the College: DVR & Dr. HS MIC college of Technology

Registration Number: 21H75A0360

Period of CSP: 4 weeks **From:** 30-07-2022 **To:** 13-08-2022

From: 09-01-2023 **To:** 22-01-2023

Name & Address of the Community/ Habitation:

JNTU - KAKINADA

YEAR: 2022 - 2023

Instructions to Students for Community Service Project

Please read the detailed Guidelines on Community Service Project hosted onthe website of AP State Council of Higher Education https://apsche.ap.gov.in

Link: https://apsche.ap.gov.in/Pdf/Guidelines%20for%20the%20OJT%20Internship%20Community%20Service%20Project.pdf

1. It is mandatory for all the students to complete 180 hours of Community Service Project as a part of the internship/on the job training.
2. Consider yourself a committed volunteer in the community, you work with.
3. Every student should identify the village/community/habitation for Community Service Project (CSP) in consultation with the College Principal/the authorized person nominated by the Principal.
4. Report to the community/habitation as per the schedule given by the College. You must make your own arrangements for transportation to reach the community/habitation.
5. You will be assigned a Faculty Guide from your College. He/She will be creating a WhatsApp group with your fellow volunteers. Post your daily activity done and/or any difficulty you encounter during the programme.
6. You should maintain punctuality in attending the CSP. Daily attendance is compulsory.
7. You are expected to learn about the community/habitation and their problems.
8. Know the leaders and the officials of the community/habitation.
9. While in the project, always wear your College Identity Card.
10. If your College has a prescribed dress as uniform, wear the uniform daily.
11. Identify at least five learning objectives in consultation with your Faculty Guide. These learning objectives can address:
    - Information about the community, including the realities and problems of the society.
    - Need for creating awareness on socially relevant aspects/programs.
    - Acquiring specific Life Skills.
    - Learning areas of application of knowledge and technologies related to your discipline.
    - Identifying developmental needs of the community/habitation.

12. Practice professional communication skills with team members, and with the leaders and officials of the community. This includes expressing thoughts and ideas effectively through oral, written, and non-verbal communication, and utilizing listening skills.
13. **Be regular in filling up your Program Book. It shall be filled up in your own handwriting. Add additional sheets wherever necessary.**
14. At the end of Community Service Project, you shall be evaluated by the person in-charge of the community/habitation to whom you report to.
15. There shall also be an evaluation at the end of the community service bythe Faculty Guide and the Principal.
16. Do not indulge in any political activities.
17. Ensure that you do not cause any disturbance to the inhabitants or households during your interaction or collection of data.
18. Be cordial but not too intimate with the people you come across during your service activities.
19. You should understand that during this activity, you are the ambassador of your College, and your behavior during the community service programme is of utmost importance.
20. If you are involved in any discipline related issues, you will bewithdrawn from the programme immediately and disciplinary action shall be initiated.
21. Do not forget to keep up your family pride and prestige of your College.
22. Remember that you are rendering valuable service to the society and your role in the community development will become part of the history of the community.

Community Service Project Report

Submitted in accordance with the requirement for the degree of... B-Tech

Name of the College: MIC college of Technology

Department: Mechanical Engineering

Name of the Faculty Guide:

Duration of the CSP: 2 weeks From: 09-01-2023 To: 22-01-2023

Name of the Student: K. Suvarchala Devi

Programme of Study:

Year of Study: B-Tech - III year (2022-2023)

Register Number: 20H75A0360

Date of Submission: 30-01-2023

Student's Declaration

I, K. Suvarchala Devi, a student of B-Tech Program, Reg. No. 21H75A0360 of the Department of mechanical, MIC college of technology college do hereby declare that I have completed the mandatory community service from 30-07-22 to 22-01-23 in Kodumur *(Name of the Community/ Habitation)* under the Faculty Guideship of M. Kotiswara Rao, *(Name of the Faculty Guide)*, Department of Mechanical Engneering in DVR & Dr. HS MIC college of Technology College.

K. Suvarchala Devi
(Signature and Date)

Endorsements

CSP- Faculty Guide

Head of the Department

Head of the Department
Dept. of Mechanical Engg.
DVR & Dr. HS MIC College of Technology
Kanchikacherla, Krishna Dt.
Andhra Pradesh, India – Pin: 521180.

14/2/23
Principal

Certificate from

Official of the Community

This is to certify that K. Suvarchala Devi (Name of the Community Service Volunteer) Reg. No 21H75A0360 of DVR & Dr. HS MIC College of Technology (Name of the College) Underwent community service in Agriculture (Name of the Community) from 30/1/22 to 13/6/22 (Phase-I) and from 9/1/23 to 23/1/23 (Phase-II). The overall performance of the Community Service Volunteer during his/her community service is found to be _____ *(Satisfactory/Good).*

M. Ruch Ra

Village Revenue Officer
Kanchikacherla

Authorized Signatory with Date and Seal

Acknowledgements

We wish to express our sincere gratitude to our esteemed guide M. koliswara Rao for his valuable guidance, encouragement and gracious support throughout the work. His valuable suggestions, effusive co-ordination and encouraging interactions were a great driving once for us to carry out this Community Service Project.

We are grateful to Dr. D.V. SIVA REDDY Head of the ~~Civil~~ Mech Engineering Department, for his support and permitting us to take up our project work and to complete the project successfully.

We express our sincere thanks to Dr. K. Srinivas Rao Principal, DVR & Dr. HS MIC College of Technology, Kanchikacherla.

We are also thankful to K.S. Murthy official of the community, who gives support to us during this work and others who assisted us in this community project work.

K. Suvarchala Devi
Project Members

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CHAPTER-1

Executive Summary

We have decided to go in a path to guide the students into a etter career on mechanical engineering. We thought of a moment o help a commun it of farmers on new farming methods and ſie. Then brief of using power tools and their working in odern farming. As we have started to visit schools for, idance of career to the students, we had many students ho were very intrigued to know about what they were do by our guidance and path of career.

As we have visited many schools for our community service roject to guide the students on their career, we have learned any things and taught them many things. Even some of eir teachers have helped us during our guidance to the udents which made us inspired.

As we have moved on to the farmers mechanization by ower tools, we helped many farmers on learning modern arming methods and usage of power tools

CHAPTER-2

Overview of the Community

Our community has many children who were about to enter into a life of education which starts their path for a good career in the future. They might want to become anything they want to be apart from being a mechanical engineer we have helped them in the selection and path of their own, depending upon their choice and we have managed to explain them, how a mechanical engineer life would be apart from others with a temporary job of high salary. They were truly intrigued into the subject and the applications to their life.

Our community even has some of the small farmers who are poor in knowledge of the modern farming and tool that can be used for farming during heavy crops. we gathered them together to a place and explained about the modern farming and about the power tools that are used these days and their usage in daily life. we have managed to given them a practical experience on power tools

CHAPTER-3

Community Service Part

We have scheduled our community service on the basis of the students timings at the schools and the permissions given by the principals. we have scheduled it as of one week is for the career guidance to the students on mechanical engineering and the other week as farmer mechanization by power tools in the farmer..

As we were scheduled on our community service, we started visiting schools and farms for guidance on both career gidance & farm mechanization by power tools. As our community was great for festives & holidays. we have had some problems during our schedule in the last two weeks. due to several holidays for students. But we have managed to continue our project and complete in time.

CHAPTER-4

ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	Carrier guidance of importance of mechanical engineering at various level of life	students were very intrested in the path of mechanics	
Day - 2	carrier guidance of importance of mechanical engineering at various level of life	students were very intrested in the path of mechanices	
Day – 3	carrier guidance of importance of mechanical engineering at various level of life	students were very intrested in the path of mechanices	
Day – 4	Carrier guidance of importance of mechanical engineering at various level of life	students were very intrested in the path of mechanices	
Day – 5	carrier guidance of importance of mechanical engineering at various level of life	students were very intrested in the path of mechanices	
Day –6	carrier guidance of importance of mechanical engineering at various level of life	students were very intrested in the path of mechanics	

WEEKLY REPORT

WEEK – 1 (From Dt..... to Dt .....)

Objective of the Activity Done: Carrier guidance on importance of mechanical engineering

Detailed Report:

On the detail discussion with the students on their carrier and the path they want to go in, we have successfully managed to make them learn about the importance of B-tech in their lives and in their path of getting a great opportunities. The students were very intrigued in their path of carrier to get a bright future we even gave every one a clear information on the goals and ways to achieve them even through they are different from studies.

Many of the students were very fond of the engineering colleges and the life after the graduation. They were given a clear view on their career and the milestones to be achieved during the B-tech life. Many of the students were about to start their answer on being a mechanical engineer, as we have started on its importance in life

ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	Farm mechanization by Power tools	the workers and tenents were more intrested in power tools	
Day - 2	Farm mechanization by Power tools	the workers and tenents were more intrested in power tools	
Day – 3	Farm mechanization by Power tools	the workers and tenents were more intrested in power tools	
Day – 4	Farm mechanization by Power tools	the workers and tenents were more intrested in power tools	
Day – 5	Farm mechanization by Power tools	the workers and tenents were more intrested in power tools	
Day –6	Farm mechanization by Power tools	the workers and tenents wer more intrested in power tools	

WEEKLY REPORT

WEEK – 2 (From Dt..... to Dt .....)

Objective of the Activity Done: farm mechanization by power tools

Detailed Report:

Many of the farmers in the locality we have visited were still using the methods that were used in 90's so we have made some simpler changes with what they had and a little of scrap materials that were left. They were involved in what we were involved in what we were about to do with the things we have collected and helped us to make what we were trying and did exactly what we said. They were suprised to the outcomes of their little work and scrap.

We explained them about power tools and their funtioning in the farming and how they make the work easy and efficient we gave them a clear idea on every power tool that can be used in farming and also for cutting trees.

ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	Carrer guidance of impott-ance of mechanical engineering at various level of life	students were very intresed in the path of mechines	
Day - 2	carrer guidance of impott ance of mechanical engineering at various level of life	students were very intresed in the path of mechines	
Day – 3	carrer guidance of imp-ortance of mechanical engineering at various level of life	students were very intresed in the path of mechines	
Day – 4	carrer guidance of imp-ortance of mechanical engineering at various level of life	students were very intresed in the path of mechines	
Day – 5	carrer guidance of imp-ortance of mechanical engineering at various level of life	students were very intresed in the path of mechines	
Day –6	carrer guidance of impor tance of mechanical engineering at various level of life	students were very intresed in the path of mechines	

WEEKLY REPORT

WEEK – 3 (From Dt..... to Dt .....)

Objective of the Activity Done: Career guidance of importance of mechanical engineering

Detailed Report:

On the detail discussion with the students on their career and the path they want to go in, we have successfully managed to make them learn about the importance of B.tech in their lives and in their path of getting a great opportunities. The students were very intriqued in their path of career to get a bright future. we even gave everyone a clear information on the goals and ways to achieve them even through they are different from studies (or) engineering.

Many of the students were very fond of the engineering colleges and the life after the graduation. they were given a clear view on their career and the milestones to the achieved during the B-tech life. Many of the students were about to start their answer on being a mechanical engineer as we have started on its importance in life

ACTIVITY LOG FOR THE FORTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Farm mechanization by power tools	the workers and tenets were more intrested in power tools	
Day - 2	Farm mechanization by power tools	the workers and tenets were more intrested in power tools	
Day - 3	Farm mechanitation by power tools	the workers and tenets were more intrested in power tools	
Day - 4	Farm mechanitation by power tools	the workers and tenets were more intrested in power tools	
Day - 5	Farm mechanization by power tools	the workers and tenets were more intrested in power tools	
Day - 6	Farm mechanization by power tools	the workers and tenets were more intrested in power tools	

WEEKLY REPORT

WEEK – 4 (From Dt..... to Dt .....)

Objective of the Activity Done: Farm mechanization by power tools

Detailed Report:

Many of the farmers in the locality we have visited were still using the methods that were used in 90's so we have made some simpler changes with what they had and a little of scrap materials that were left. They were involved in what we were about to do with the things we have

Collected & helped us to make what we were trying and did exactly what we said. They were suprised to the outcome of their little work and scrap.

We explained them about power tools and their funtioning in the farming and how they make the work easy and efficient. we gave them a clear idea on every power tool that can be used in farming and also for cutting trees.

ACTIVITY LOG FOR THE FIFTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	Farm Mechanization by Power Tools		J. Satya Raju J.SATYA RAJULU VILLAGE REVENUE OFFICER KODUMUR-2 Kurnool (Dist.)
Day - 2	Farm Mechanization by Power Tools		J. Satya Raju J.SATYA RAJULU VILLAGE REVENUE OFFICER KODUMUR-2 Kurnool (Dist.)
Day – 3	Farm Mechanization by Power Tools		J. Satya Raju J.SATYA RAJULU VILLAGE REVENUE OFFICER KODUMUR-2 Kurnool (Dist.)
Day – 4	Career Guidance on importance of Mechanical engineering at various level		J. Satya Raju J.SATYA RAJULU VILLAGE REVENUE OFFICER KODUMUR-2 Kurnool (Dist.)
Day – 5	Career Guidance on importance of Mechanical engineering at various level		J. Satya Raju J.SATYA RAJULU VILLAGE REVENUE OFFICER KODUMUR-2 Kurnool (Dist.)
Day – 6	Career Guidance on importance of Mechanical engineering at various level		J. Satya Raju J.SATYA RAJULU VILLAGE REVENUE OFFICER KODUMUR-2 Kurnool (Dist.)

WEEKLY REPORT

WEEK – 5 (From Dt. 09/01/23 to Dt. 14/01/23)

Objective of the Activity Done: Career guidance for students and farm mechanization by power tools

Detailed Report:

Many of the farmers in the locality we have visited were still using the methods that were used in 1900s so we have made some simpler changes with what they had and a little of scrap materials that were left. They were involved in what we were about to do with the things. ur have collected and helped us to make what we were trying and did exactly what we said. They were suprised to the outcomes of their little work and scrap.

We explained them about power tools and their funtioning in the farming and how they make the work easy and efficient we gave them a clear idea on every power tool that can be used in farming ~~tool~~ and also for cutting trees.

ACTIVITY LOG FOR THE SIXTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	Collect information about traditional farming techniques from farmers		Village Revenue Officer Kanchikacherla Kanchikacherla Mandal
Day - 2	we study and learn about Smart agriculture farming		Village Revenue Officer Kanchikacherla Kanchikacherla Mandal
Day – 3	we conduct awareness program in village about Smart agriculture farming		Village Revenue Officer Kanchikacherla Kanchikacherla Mandal
Day – 4	awareness on usage of chemical fertilizers and their disadvantages		Village Revenue Officer Kanchikacherla Kanchikacherla Mandal
Day – 5	we interact with students and share my knowledge & experience with them		Village Revenue Officer Kanchikacherla Kanchikacherla Mandal
Day – 6	we met with higher authorities ~~with~~ and take signatures –		Village Revenue Officer Kanchikacherla Kanchikacherla Mandal

WEEKLY REPORT

WEEK – 6 (From Dt. 16/01/23 to Dt 21/01/23)

Objective of the Activity Done: Career guidance of importance of mechanical engineering mechanization by power tools

Detailed Report:

On the detail discussion with the students on their carrier and the path they want to go in, we have sucessfully managed to make them learn about their importance of B-tech in their lives and in their path of getting a great opportunities. The students were very intrequid in their path of carries to make get a bright future. We even gave everyone a clear information on the goals and ways to achieve them even through they are diff from studies (or) engineering.

Many of the students were very fond of the engineering colleges and the life after the graduation. They were given a clear view on their carrier and they milestones to be during the B-tech life. Many of the students were about to start their answer on being a mechanical engineering as we have started on its importance in life.

CHAPTER-5

Outcomes Description

Every school we have visited for career guidance has given a
tional outcomes including the students of new 10th (9th class).
intrest they have shown in our guidance has given us more
y & excitment about the other schools and the rating of our
nce's and their understanding towards us. Everyone of
were different from each other in the ideaology with a
r ways of having a good career. we have sharpened
r ideas with explanation and shown them the oppur-
ities that are infront of them.

the outcomes that we recieved from the workers and
ners during the farm mechanization by power tools is
y unexpected. we were going to visit different farms
by one, but we were excited and shocted seeing
n gathering towards our explanation on the modern
ming and usage of power tools

CHAPTER-6

Recommendations and Conclusions

As many as schools we have visited, we understood many things about the students and about their throughts on career and future, among them are:

* Lack of perspective
* Lack of guidance on their goals
* Having temporary goals
* Thinking of earning money is what career means
* Lack of knowledge on path of career.

As we have guided them in the right directions to achieve their goals and we also shown the opportunities they have. we hope they achieve their goals and have a better career.

The explanation and importance of modern farming to the farmers went well, but they have a throught of financial investment. So we throught that if we have another opportunity. we can help them with according to their financial support.

CHAPTER-7

Student Self-Evaluation for the Community Service Project

Student Name: K. Suvarchala Devi

Registration No: 21H75A0360

Period of CSP:

Date of Evaluation:

Please rate your performance in the following areas:

Rating Scale: **Letter grade of CGPA calculation to be provided**

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Proactiveness	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

K. Suvarchala Devi

Signature of the Student

Date:

CHAPTER-8

Evaluation by the Person in-charge in the Community / Habitation

Student Name: K. Suvarchala Devi

Registration No: 21H75A0360

Period of CSP:

Date of Evaluation:

Name of the Person in-charge:
Address with mobile number:

Please rate the student's performance in the following areas:

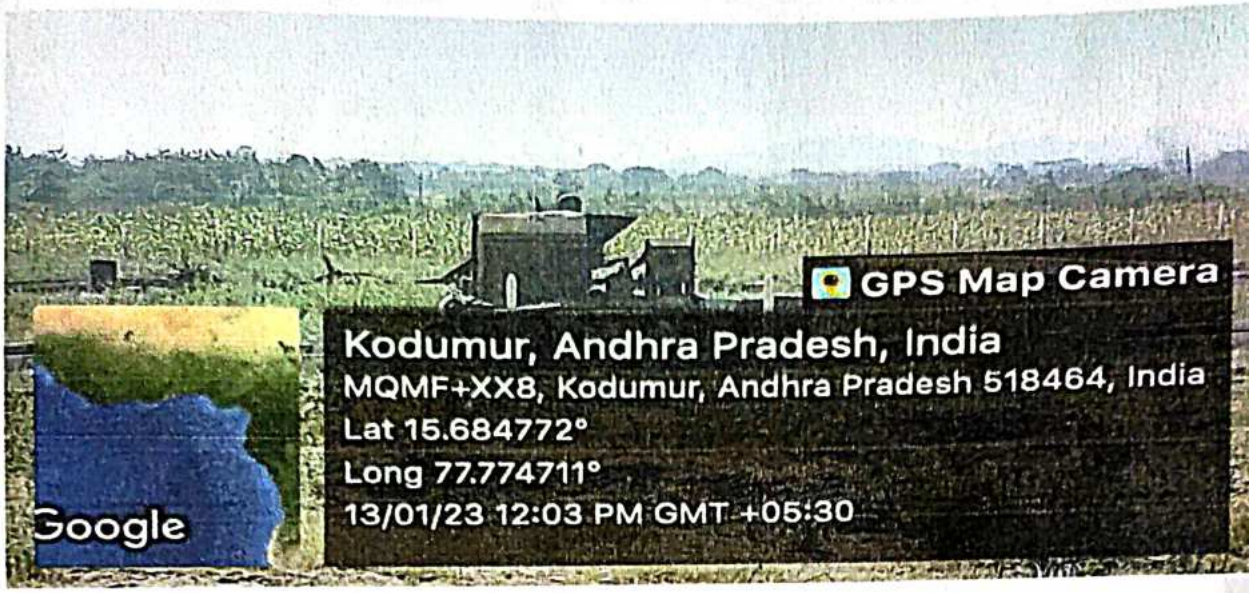
Please note that your evaluation shall be done independent of the Student's self-evaluation

Rating Scale: 1 is lowest and 5 is highest rank

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Proactiveness	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

Date:

Signature of the Supervisor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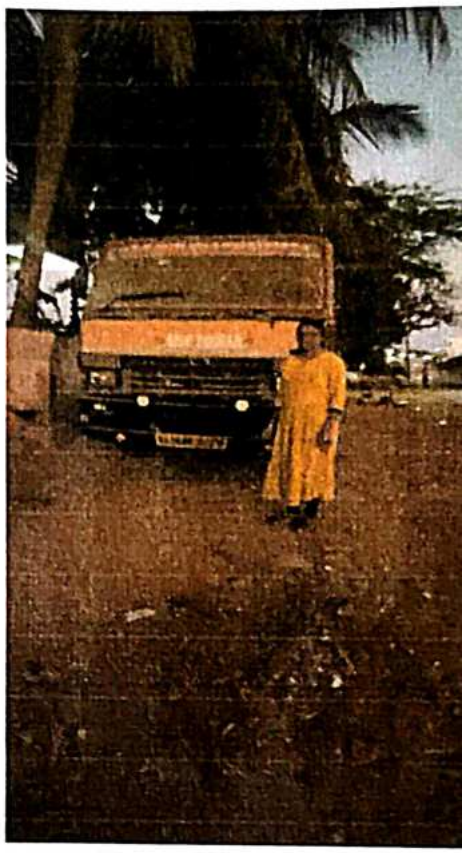

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PROGRAM BOOK FOR HOME ENERGY AUDIT

Name of the Student: K. Suvarchala Devi

Name of the College: DVR & Dr.HS MIC college of Technology

Registration Number: 21H75A0360

JNTU - KAKINADA

YEAR: 2022 - 2023

Student's Declaration

I, K. Suvarchala Devi, a student of B.tech Program,

Reg. No. 21H75A0360 of the Department of Mechanical

MIC college College do hereby declare that I have completed

the home energy audit under the Faculty Guideship of M. KotiswaraRao,

Department of Mechanical MIC college college

K. Suvarchala Devi
(Signature and Date) 30-01-23

Endorsements

CSP- Faculty Guide

Head of the Department
Head of the Department
Dept. of Mechanical Engg.
DVR & Dr. HS MIC College of Technology
Kanchikacherla, Krishna Dt.
Andhra Pradesh, India – Pin: 521180.

19/2/23
Principal

BOARD FOR COMMUNITY DEVELOPMENT *through* EDUCATION
GOVERNMENT OF ANDHRA PRADESH
2nd floor, Neeladri Towers, Sri Ram Nagar, 6th Battalion Road, Atmakur (V), Mangalagiri (M),
Guntur Dt. A.P.– 522 503, E-mail: secretarybcd2021@gmail.com; Mobile: 9440285609

HOME ENERGYAUDIT - WORKSHEET

OBJECTIVES:

To estimate Energy consumption for a house;

To understand peak energy consumption pattern;

To identify ways and means of Energy Conservation;

To propose action plan for Energy Conservation;

To measure the savings after implementation of Energy conservation tips.

INTRODUCTION:

Energy is an important commodity in this modern era. As the utility of energy is continuously increasing due to reasons like population growth, increase in usage of electrical equipment, mechanization, enhancement in comfort living requirements etc., The Energy production is not increasing to meet such peak increase in usage of Energy. It is leading to huge gap between Energy Demand and Supply. Hence it is every citizens responsibility to reduce the gap between energy demand and supply by conserving energy as much as possible. In order to implement energy conservation it is necessary to understand the consumption patterns and possible avenues of conservation. Energy Audit is one best way to achieve this.

An energy audit is a way to calculate how much energy being used at home. It will help the citizen to identify how much energy each home uses and where could be saving energy possible. It is thefirst step tomaking thehome, theschooloranyotherareamoreenergyefficient.

Activity1:CalculatetheAmpsandenergyusedbyalloftheseappliancesinoneday:

Equationforcalculatingenergy:

- Energy(kWh)=(Power(watts)xtimexnumberofappliances)÷1000

Appliance	Power(W)	Numberof appliances	Timeused (hour)	Energy(kWh)
CeilingFan	80W	2	5	(80x5x2)÷1000= 0.8kWh
Desktopcomputer	300W	1	4	(300x4x1)÷1000=1.2kwh
LEDbulb	10W	4	6	(10x4x6)÷1000 =0.24kwh
Tubelight	40W	2	5	(40x2x5)÷1000=0.4kwh
Television	200W	1	4	(200x1x4)÷1000=0.8kwh
Washing Machine	320W	0	0	0
Microwave	1400W	0	0	0
Refrigerator	2000W	1	8	(2000x1x8)÷1000=16kwh
Immersion Water Heater	1000W	0	0	0
Geyser	3000W	0	0	0

Activity2:Questions

1. Whichwerethethreeappliancesthatusedthemostenergy?Whataretheyusedfor?

Refrigerator, television, desktop computer they are used for food presservation, entertainment

2. a) What was the total energy used by all of the appliances (tip – add up all of the energy (kWh)values):

***Note–itislikelythatyourenergyusagemaybehigherthanthecalculatedvalueasyoumayhaveotherappliancesthatarenotincludedinthistable.Thisworksheetprovidesan approximatevalue.**

18.64 kwh

b) Calculate how many kWh of energy are consumed on average in a month (tip - multiply

yourtotalenergy usedbyall appliancesby thenumberofdays inthemonth).

559.2 kwh is consumed on average in a mounth

c) Checkyourelectricitybillandcompareittothemonthlyenergyusagethatyoucalculated.

Your total monthly energyusage from your calculationin2(b)	559.2
Your total monthly energyusagefromelectricity bill	₹ 812

An average household in Mumbai city consumes 298kWh of electricity every month and releasesabout244kgsof CO_2e(1kWh releases0.82 kgCO_2e)

3. Writedownideasforreducingenergyconsumptionforappliancesineachcategory:

evice	Ideastoreduceenergy
xampl :Washi g lachine	Icouldhand wash myclothes somedays.Also,Icouldmakesuremyfamilyrunsbiggerloadsof washingsothatwe do notwaste water.
leating ndcooling	for cooling, usage at refrigerator is reduced by not keeping hot items in it
creen- ased	Reducing the usage at screen based appliences like, computers, television etc.
ighting	**Did you know, switching off a device from the source at plug reduces consumption of electricitybyan average of10% use when there is need using only LED Bulbs

4. Choosetwowaysthatyouwillreduceyourenergybillby10.%

1. Using solar panals

2. less usage at high power consuming appliances

CONDUCT SIMILAR STUDY AFTER IMPLEMENTING THE ENERGY CONSERVATION MEASURES AND MONITOR HOW MUCH IS THE SAVING.

5. Comparingelectricitybillsbeforeandafteryourenergyconservationefforts:

Before:	₹ 812
Afteronemonth:	₹ 626
Totalmoneysaved:	₹ 186

TOTAL ENERGY SAVINGS FOR THE WARD / VILLAGE AND ALSO REDUCTION IN CARBON EMISSIONS MAY BE CALCULATED AND SUBMITTED TO THE FACULTY MENTOR / WARD / VILLAGE SECRETARY.

THE SAME CAN BE SUBMITTED IN THE FORMAT OF COMMUNITY SERVICE PROJECT AT COLLEGE

BOARD FOR COMMUNITY DEVELOPMENT *through* EDUCATION
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ELECTRICAL ENERGY - SAVING TIPS

(Source: BEE India)

LIGHTING SYSTEM

1. One of the best energy-saving devices in lighting is the switch. Turn off lights when not required.
2. Efficient Fluorescent tube lights such as T5, CFLs and LEDs are much more efficient than incandescent bulbs and can save about 60-80% of electricity for the same lighting levels.
3. Electronic ballasts can reduce power consumption by 20%.
4. Consider employing infrared sensors, motion sensors, automatic timers, dimmers and photocells switches wherever applicable for efficient use. Use outdoor lights with timers or photocells so that they turn off automatically in day light and avoid using curtains during the day.
5. Use task lighting, which focuses light where it is needed. A reading lamp, for example, lights only reading material rather than the whole room.
6. Dirty tube lights and bulbs deliver less light and can absorb about 50 percent of the light; dust tube lights and lamps regularly.
7. Look for BEE rating on the Tubular Fluorescent Lamps.
8. Use artificial lighting only when there is inadequate natural light in a space.
9. Don't replace tube lights (line source) which light over a larger linear spread with a bulb (point source) that emits light from a single point.
10. Don't use dark-colored surface in workrooms. These reduce the reflected light levels and increase the number of lamps required to illuminate the space.
11. Children are advised to study in one room and with individual table lamps and advise them to switch off the individual lamps when not required. Children to utilize morning hours & broad day light for studies rather than using artificial light.
12. Switch off alternate tube Lights/lamps in common areas and staircases during late hours in the night.
13. Please note, a 'Zero Watt' incandescent bulb uses about 10 to 15 watt while an LED bulb of 9 watt can provide light output equivalent to 60 watt incandescent bulb.

CEILING FAN

1. Replace conventional regulators with electronic regulators for ceiling fans.
2. Height of the fan relative to the ceiling. If fan is too close to the ceiling, the airflow is restricted; that is, the fan will not be able to draw as much air through its blade as it has the potential to do. For this reason, 'Hugger' style fans (those which mounted directly to the ceiling without the use of down rod) are all inherently disadvantaged. The distance that a fan should be mounted form the ceiling is directly correlated with its air moving potential; no fan should be mounted with its blade closer than 24 inches to the ceiling.
3. Pitch of the fan's blades. The angle at which the fan's blades tilted relative to X axis is referred to as the blade pitch. The steeper the pitch, the greater the air flow.
   Since increased pitch also means increased drag, only fans with well-made motors can support steep pitches. Cheaply made fans typically have a pitch between 9 and 13 degrees.

AIR CONDITIONER

1. Use BEE star labeled products.
2. Use ceiling or table fan as first line of defense against summer heat. Ceiling fans, for instance, cost about 3 rupees an hour to operate – much less than air conditions (Rs.100 per hour).
3. One will use 3 to 5 per cent less energy for each degree air conditioner is set above 22°C (71.5°F), so far set the thermostat of room air conditioner at 25°C (77°F) to provide the most comfort at the least cost.

room.

6. A good air conditioner will cool and dehumidify a room in about 30 minutes, so use a timer and leave the unit off for some time.
7. Clean the air-conditioner filter every month. A dirty air filter reduces airflow and may damage the unit. Clean filters enable the unit to cool down quickly and use less energy.
8. Have your air conditioning unit checked every 6 months. If the Freon level is not correct, you will waste a lot of energy and your home will never be as cool as you want it.
9. The gaps around the windows and doors leads to A C loss. You can use a candle to look for drafts. It the flame flickers or dances, found the place to seal.
10. Draperies on windows help reduce energy loss.
11. Use electronic devices with occupancy sensors which switch on or off automatically by sensing if the room is occupied.
12. Switch to evaporative coolers from air conditioners during hot/dry summer months.
13. Buy split ACs instead of window ACs. They cost more, but they are more energy efficient and consume lesser electricity.
14. Do not install AC units on the west and south walls as these are exposed to direct sunlight through a major part of the day during summers.
15. Do not apply dark colors on the external surfaces (roof and walls) of the house. Dark colors absorb more heat than light colors, leading to increased use of the AC.
16. Ensure that the condenser of the unit must have enough space around it for air to circulate and help the refrigerant dissipate its heat easily.

REFRIGERATOR

1. Use BEE star labelled products.
2. Keep your refrigerator and freezer at the right temperature. If they are only 2-3 degrees colder than necessary, energy consumption may go up by approx 25%.
3. Make sure the door is sealed tightly. When it's dark, place a lit flashlight inside the refrigerator and close the door. If light around the door is seen, the seals need to be replaced.
4. Make sure that the refrigerator is not place against outside facing wall or walls exposed to the direct sunlight.
5. Refrigerator motors and compressors generate heat, so allow enough space for continuous airflow around refrigerator. If the heat can't escape, the refrigerator's cooling system will work harder and use more energy.
6. Do no put uncovered liquids in the refrigerator. The liquids give off vapors that add to the compressor workload.
7. Allow hot food to cool off before putting it in the refrigerator.
8. Think about what you need before opening refrigerator door. You'll reduce the amount of time the door remains open.
9. Make sure that refrigerator's rubber door seals are clean and tight. They should hold a slip of paper snugly. If paper slips out easily, replace the door seals.
10. When dust builds up on refrigerator's condenser coils, the motor works harderand uses more electricity. Clean the coils regularly to make sure that air can circulate freely.
11. Defrost freezer compartment regularly for a manual defrost refrigerator.
12. Make sure that you are using a refrigerator that is approximately sized for your needs. If your fridge is too small, you may be overworking. If it is too large, then you are potentially wasting energy and home space.

OVENS / MICROWAVE OVEN

1. Microwaves use around 50% less energy than conventional ovens; they are most efficient for small portions or defrosting.
2. Check the seal on your oven door to see if there are cracks or tears in it.
3. Develop the habit of 'lids-on' cooking to permit lower temperature settings.
4. Carefully measure water used for cooking to avoid having to heat more than is needed.
5. Begin cooking on highest heat until liquid begins to boil. Then lower the heat control settings and allow food to simmer until fully cooked.

6. Rearrange oven shelves before turning your oven on and don't peep at food in the oven! Every time you open the oven door, 4°-5° is lost
7. When preheating an oven for baking, time the preheat period carefully. Five to eight minutes should be sufficient.
8. For large items, stove-top cooking is most efficient, especially with gas.
9. For large items, stove-top cooking is most efficient, especially with gas.

WASHING MACHINES

1. Washing machines can account for as much as 20% of the electricity you use.
2. Use Cold water, as almost 90% of the energy consumed by washing machines goes to heating the water. Set the washing machine temperature to cold or warm and the rinse temperature to cold as often as possible.
3. Each was cycle uses up to 60 to 90 liters of water. Use washing machine on full load and plan washing periodicity to save on water too.
4. Adding too much detergent actually hampers effective washing action and may require more energy in the form of extra rinses.
5. Wash only full loads of clothing-but do not overload machine. Sort laundry and schedule washes so that a complete job can be done with a few cycles of the machine carrying its full capacity, rather than a greater number of cycle with light loads.
6. Soak or pre-wash the cloths for effective cleaning.

COOKING

1. Organized cooking activity can save about 20% Energy.
2. Use right quantity of water required for cooking and reduce gas / kerosene usage by 65%.
3. Cook on low flame as far as possible and save 6 to 10% energy.
4. The pressure cooker should be loaded 2/3rd of the foodstuff is solid & hard and Â½ if loaded with liquid. Properly used pressure cookers can save up to 50 to 75% of energy as well as time.
5. Cook your food in solar cooker and save cost of 2 LPG Cylinders annually.
6. When cooking on a gas burner, use moderate flame settings to conserve LPG.
7. Remember that a blue flame means your gas stove is operating efficiently.
8. Yellowish flame is an indicator at the burner need cleaning.
9. Use pressure cooker as much as possible.
10. Use lids to cover the pans while cooking.
11. Bring items taken out of refrigerators (like vegetables, milk etc) to room temperature before placing on the gas stove for heating.

GEYSER / WATER HEATER

1. Install Solar Water Heating System.
2. By reducing the temperature setting of water heater from 60 degrees to 50 degrees C, one could save over 18 percent of the energy used at the higher setting.
3. To help reduce heat loss, always insulate hot water pipes, especially where they run through unheated areas. Never insulate plastic pipes.
4. A dripping faucet wastes water and if it's dripping hot water, its wasting energy too. Often requiring nothing more then a new washer, fixing leaks is one of the quickest and least expensive ways of reducing the energy and water bills.
5. Another way to reduce waste is to take showers or baths depending on which uses less hot water then baths, other way baths use more. They are both right. Which is correct for you depends on how long and hot your showers are and how deep deep and warm your baths are.
6. Using less hot water may be easier than you think. Water conserving shower heads and faucet aerators can cut hot water use inn half.. To see if this will work for you, first determine what your faucet and shower flow rates are now.
7. To select the right water heater for your home, you need to consider family size and whether your usage would be considered high or low demand. It is assumed that you know your family size, so all you have to determine is your usage profile.

COMPUTER

1. Computer that runs 24 hours a day, for instance, used-more power than an energy efficient refrigerator.
2. Screen savers save computer screens, not energy. Start-ups and shutdown do not use any extra energy, nor are they hard on your computer components. In fact, shutting computers down when you are finished using them actually reduces system wear and saves energy.
3. Purchase flat-screen LCD monitors.
4. Setting computers, monitors and copiers to sleep-mode when not in use helps cut energy costs by approximately 40%
5. Activate and standardize 'power down' on new and existing PCs
6. If your computer must be left on, turn off the monitor; this device alone uses more than half the system's energy.

--- Compiled by
Prof. M.L.S.Deva Kumar, JNTUA Ananthapuramu

Model Program Book

COMMUNITY SERVICE PROJECT

Designed & Developed by

ANDHRA PRADESH
STATE COUNCIL OF HIGHER EDUCATION
(A STATUTORY BODY OF GOVERNMENT OF ANDHRA PRADESH)

DVR & Dr. HS
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AUTONOMOUS
Accredited by NAAC With Grade A

PROGRAM BOOK

FOR

COMMUNITY SERVICE PROJECT

Name of the Student: Neelam Venkat Naga Raj Kumar.

Name of the College: DVR & DR. HS MIC COLLEGE OF TECHNOLOGY

Registration Number: 21H75A0370

Period of CSP: 6 weeks

From: 30-07-2022 **To:** 13-08-2022

From: 09-01-2023 **To:** 22-01-2023.

Name & Address of the Community/ Habitation:

JNTU – KAKINADA

YEAR: 2022-2023

Instructions to Students for Community Service Project

Please read the detailed Guidelines on Community Service Project hosted onthe website of AP State Council of Higher Education https://apsche.ap.gov.in

Link: https://apsche.ap.gov.in/Pdf/Guidelines%20for%20the%20OJT%20Internship%20Community%20Service%20Project.pdf

1. It is mandatory for all the students to complete 180 hours of Community Service Project as a part of the internship/on the job training.
2. Consider yourself a committed volunteer in the community, you work with.
3. Every student should identify the village/community/habitation for Community Service Project (CSP) in consultation with the College Principal/the authorized person nominated by the Principal.
4. Report to the community/habitation as per the schedule given by the College. You must make your own arrangements for transportation to reach the community/habitation.
5. You will be assigned a Faculty Guide from your College. He/She will be creating a WhatsApp group with your fellow volunteers. Post your daily activity done and/or any difficulty you encounter during the programme.
6. You should maintain punctuality in attending the CSP. Daily attendance is compulsory.
7. You are expected to learn about the community/habitation and their problems.
8. Know the leaders and the officials of the community/habitation.
9. While in the project, always wear your College Identity Card.
10. If your College has a prescribed dress as uniform, wear the uniform daily.
11. Identify at least five learning objectives in consultation with your Faculty Guide. These learning objectives can address:
    - Information about the community, including the realities and problems of the society.
    - Need for creating awareness on socially relevant aspects/programs.
    - Acquiring specific Life Skills.
    - Learning areas of application of knowledge and technologies related to your discipline.
    - Identifying developmental needs of the community/habitation.

12. Practice professional communication skills with team members, and with the leaders and officials of the community. This includes expressing thoughts and ideas effectively through oral, written, and non-verbal communication, and utilizing listening skills.
13. **Be regular in filling up your Program Book. It shall be filled up in your own handwriting. Add additional sheets wherever necessary.**
14. At the end of Community Service Project, you shall be evaluated by the person in-charge of the community/habitation to whom you report to.
15. There shall also be an evaluation at the end of the community service by the Faculty Guide and the Principal.
16. Do not indulge in any political activities.
17. Ensure that you do not cause any disturbance to the inhabitants or households during your interaction or collection of data.
18. Be cordial but not too intimate with the people you come across during your service activities.
19. You should understand that during this activity, you are the ambassador of your College, and your behavior during the community service programme is of utmost importance.
20. If you are involved in any discipline related issues, you will be withdrawn from the programme immediately and disciplinary action shall be initiated.
21. Do not forget to keep up your family pride and prestige of your College.
22. Remember that you are rendering valuable service to the society and your role in the community development will become part of the history of the community.

Community Service Project Report

Submitted in accordance with the requirement for the degree of..B.tech.

Name of the College: DVR & DR HS MIC COLLEGE OF TECHNOLOGY

Department: Mechanical Engineering.

Name of the Faculty Guide: DR. DV. SIVA REDDY

Duration of the CSP: 6 weeks.

From: 09-01-2023 To: 22-01-23.

Name of the Student: Neelam Venkat Naga Raj kumar

Programme of Study: B.tech.

Year of Study: B.tech III Year.

Register Number: 21N75A0370

Date of Submission 30-01-2023.

Student's Declaration

I, Neelam Venkat Naga Raj kumar, a student of B.tech Program, Reg. No 21H75A03670 of the Department of Mechanical, MIC college of Technology College do hereby declare that I have completed The mandatory community service from 30/07/22 to 22/01/23 in Purification of drinking water & Effects (Name of the Community/ Habitation) under the Faculty Guideship of DR.DV.SIVA REDDY, (Name of the Faculty Guide), Department Of MECHANICAL ENGINEERING, in DVR.&DR HS MIC college of technology College.

N.Venkat Naga Raj kumar 30/01/2023
(Signature and Date)

Endorsements

CSP- Faculty Guide

Head of the Department

10/2/23
Principal

Head of the Department
Dept. of Mechanical Engg.
DVR & Dr. HS MIC College of Technology
Kanchikacherla, Krishna Dt.
Andhra Pradesh, India – Pin: 521180.

Certificate from

Official of the Community

This is to certify that Neelam Venkat Naga Rajkumar (Name of the Community Service Volunteer) Reg. No 21H75A0370 of DVR & HS MIC COLLEGE OF Technology (Name of the College) Underwent community service in Research on purification of drinking water (Name of the Community) from 30/07/22 to 13/08/22 (Phase-I) and from 09/01/23 to 22/01/23 (Phase-II). The overall performance of the Community Service Volunteer during his/her community service is found to be _____ *(Satisfactory/Good).*

Authorized Signatory with Date and Seal

Panchayat Secretary Gr. VI
(Digital Assistant), Code :10690719
Kondapalli Sachivalayam - 2
Ibrahimpatnam(M), Krishna (Dt)-521 228, A.P

Acknowledgements

We are grateful to Dr.Dv Siva Reddy Head of the MECHANICAL ENGINEERING DEPARTMENT, for his support and permitting us to take up our project work and to complete the project successfully.

We express our sincere thanks to Dr. K. Srinivas Principal, DVR & Dr. HS MIC College of Technology, Kanchikacherla.

We are also thankful to K. Sandya official of the community, who gives support to us during this work and others who assisted us in this community project work.

Project Members

N. Venkat Naga Raj kumar

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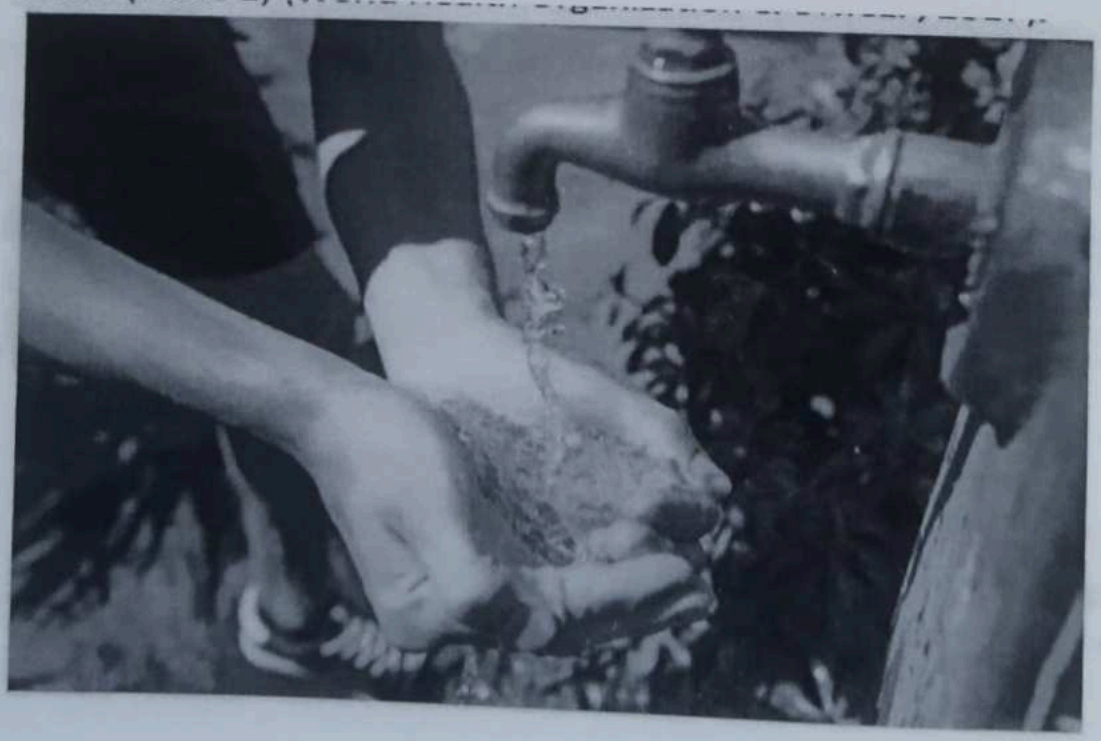
CHAPTER -1: INTRODUCTION

Introduction Access to safe drinking water is defined as the percentage of the population having access to and using improved drinking water sources.

Drinking water or potable water is a very valuable natural resource. Providing access to safe drinking Water for all is one of the most complex contemporary issues to solve, especially in a country like India. It is riddled with technological, environmental, and socio-politico-economic challenges. The logistics of water supply to every household is also a challenge. Freshwater, which is used for drinking purposes is disproportionately low on earth when compared to the 97% that occurs as saline or sea water. Two thirds of the freshwater remain frozen as glaciers and polar ice caps, leaving very little for direct use as surface water (in ponds, Rivers, lakes etc.) or ground water (accessed through wells, bore wells etc.). Glaciers and rains replenish these water sources. Water can also be sourced artificially through desalination of sea water and condensation of atmospheric moisture. While the former is the predominant source of drinking water in many Middle Eastern countries, the air-towater technologies are still emerging. Clean water is fundamental to human health and well-being. UN's Sustainable Development Goal # 6.1 is to provide all households with safe quality and adequate quantity of water by 2030. Equal and equitable access to safe and affordable drinking water is part of that goal. The governments of countries have the responsibility of providing access to safe drinking water to its populations through improved supplies.



The Joint Monitoring Program (JMP) for Water Supply and Sanitation of WHO and UNICEF tracks and 9 monitors global access to safe drinking water (Kostyla et al., 2015). For practical purposes of monitoring, the JMP classifies drinking water supplies as improved water and unimproved Water (Table 1) (World Health Organization & UNICEF, 2017).

Nearly half the world's population is projected to live in extremely water-stressed regions by 2026. Globally, ~30% (785 million) of the people already lack access to drinking water (CDC, 2021) and every other Indian does not have access to safe drinking water. Inadequate quantities and poor quality of drinking water make people exposed to a variety of preventable illnesses and they remain trapped in morbidity and increased DALY (disability adjusted life years) (World Health Organization, 2019). In 2017, 1.6 million people worldwide died of diarrhea, of which >0.5 million were U5 children (Dadonaite Et al., 2019). 10 Incessant diarrhea also impacts the nutrition and growth of children, especially those Living in socio-economically compromised environments (Mokomane et al., 2018). Microbial contamination of drinking water is closely related to poor water, sanitation, and hygiene (WASH), and Influenced by the knowledge, attitude, and practices (KAP) of individuals and communities (Kuberan Et al., 2015).

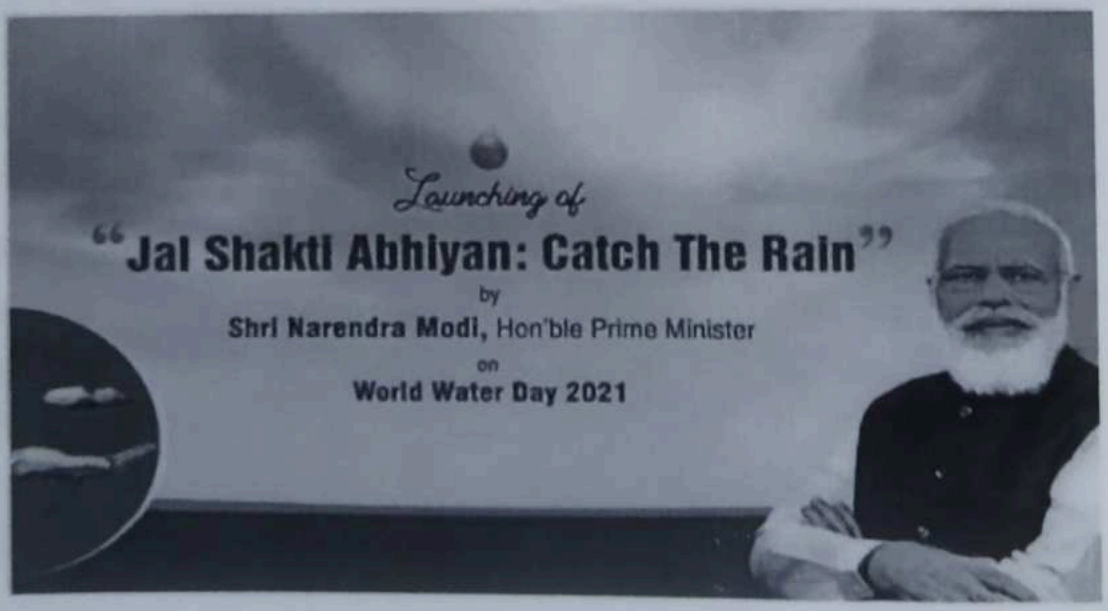
Safe drinking water is simply defined by WHO as "water that does not represent any significant risk to Health over a lifetime of consumption, including different sensitivities that may occur between life Stages" (WHO, 2006). Water becomes unsafe for consumption when it gets polluted with physical, chemical, biological, or radiological contaminants. Of these, microbial contamination is by far the Major concern, especially in lowandmiddle income countries like India.(MDGs, 2012) Pathogens such As bacteria, viruses, protozoa, cyanobacteria and helminths are examples of biological contaminants (Sharma & Bhattacharya, 2017). Diseases caused by microbial contamination include diarrhea, cholera, typhoid, dysentery, hepatitis A and E, poliomyelitis etc. (Sharma & Bhattacharya, 2017). Worldwide, infectious diarrhea caused by bacteria and viruses is a leading cause of mortality of children under the age of five (Francis et al., 2015)

Diarrheagenic pathogens such as Escherichia coli, Salmonella typhi, Shigella flexneri , Vibrio cholerae and Rotavirus spread through water and food Contaminated with human or animal feces.

Mixing of sewage with water bodies and pipelines, open defecation, unsafe disposal of human and animal wastes, poor water handling practices etc. are routes of drinking water 11 contamination. According to WHO, microbially safe water is that with no detectable E. coli (an indicator of fecal contamination) in 100 ml of sample (WHO, 2017).Disinfection/removal pathogens are ways of making It safe to drink. Avoiding the contamination in the first place would however be a more sustainable way of providing microbially safe water. This requires structuring the country's growth and development on the fundamentals of

primordial prevention including planning and monitoring for WASH in terms of structures, systems, and behaviors. Under the current scenario in India, purification Is one of the ways to provide microbially safe drinking water. There are several techniques to disinfect/remove pathogens from drinking water including physical, chemical, biological or a combination of these. Disinfection can be performed at a centralized, community level facility at the Water source, or at the household-level, or both.

In India, drinking water comes under the control of the State and Union Territories (S&UTs). S&UTs Get schematic and financial support from the Central Ministry of Drinking Water and Sanitation (now Called the Ministry of Jal Shakti). The Government of India has launched several schemes that are Being implemented by the S&UTs to enhance the quality of drinking water, such as the Jal Jeevan Mission (to provide piped water to all rural households) and Swachh Bharat Mission (to provide toilets and stop open defecation). The Central and State Pollution Control Boards (C & S PCB) monitor India's Primary drinking water sources, namely the surface and ground water sources (CPCB, 2020).Healthcare, which is closely related to safe drinking water, is also a matter of the state governments. Several cost-effective techniques and innovations have been brought 12 about in India to provide safe drinking water to the masses. Awareness among the public and the mission mode of operation to Improve water, sanitation, and hygiene by the local, state, and central governments in India have helped improve the access to safe drinking water to a large extent. Over 100 million toilets were constructed and all villages in India were declared as open defecation free (ODF) by the Swachh Bharat Mission – Grameen (Rural) in 2019 on the 150th birth anniversary of Mahatma Gandhi (Ministry of Jal Shakti, 2020). Yet, the recently published Phase -1 of the National Family Health Survey – 5 (NFHS-5) For 22 S&UTs in 2020, shows that the meaningless deaths due to U5 children diarrhea continue unabated in India, reflecting gaps in addressing factors other than toilet construction.



India managed to reduce the diarrheal death rate from 193/100000 in 1999 to 86/100000 in 2017, which is no doubt quite a feat, but not adequate in comparison to other similar income or lower income countries (Fig 1). This indicates that there is a need to identify the critical gaps and implement 13 appropriate and sustainable programs to address them. Diarrhea prevalence and deaths among the U5 children are important health outcomes not only to measure the impact of WASH interventions but also the overall performance of a country in health aspects.

The article reviews the status of microbial contamination of drinking water across the S&UTs of India and the prevalence of U5 children diarrhea. It assesses the appropriateness of existing drinking water disinfection techniques, for the ecosocioeconomically vulnerable population. The article introduces key players in drinking water governance in India to better understand the operational contexts. It contends that India's development strategies need to be reformed to include primordial prevention approaches such as better WASH conditions, especially for the vulnerable population. The governance and regulatory systems to monitor and control pollution of water sources should be tightened. If not, achieving the goals of providing access to safe drinking water and health and wellbeing for all will remain a distant dream.

Chapter -2 : WATER GOVERNANCE SYSTEM IN INDIA

The first National Water Policy (NWP) established by the Government of India in September 1987 by the National Water Resources Council (NWRC), indicates the national level commitment to the importance of water and water utilization. It specifically mentions that water resource development should be taken up as multi-sectoral projects, giving top priority to drinking water. In NWP (2002), there was a commitment to providing access to safe drinking water facilities to the entire population (rural and urban), and that this should not be affected because of use by the agriculture and industrial sectors. NWP (2012) was enacted to address the growing disparities in not only the access to quality and quantum of drinking water, but also to access of water for sanitation. The need for efforts in conservation and better management of water were particularly highlighted in the 2012 policy.

India has a federal system of governance wherein water (including drinking water and other supplies, irrigation & canals, drainage and embankments, storage, and power) is a subject matter of the 28 States and 8 Union Territories (S&UTs), under Article 246 of the Constitution of India. However, the Central Government has an overall responsibility for appropriate functioning of water related activities. A third player in the drinking water sector is the non-governmental organizations 15 (NGOs) including the civil society organizations, academia, research institutions, private industry, and the corporate social responsibility (CSR) units of private organizations .

The supply and management of water in the rural and urban areas are managed differently in India. The Municipalities/ Corporations that come under the respective S&UTs are responsible for the urban Water supply and management while a unique system called the Panchayati Raj System (PRS) manages The rural areas. The PRS is a 3-tier system with elected representatives at the District, Taluk (Block) And Gram (Village) level participation in governance and administration (Ahmed & Araral, 2019).

The Ministry of Water Resources, River Development, and Ganga Rejuvenation was renamed as the Ministry of Jal Shakti on June 14, 2019, with two departments: The Department of Water Resources, River Development, and Ganga Rejuvenation (DWRRDGR) and the Department of Drinking Water and Sanitation (DDWS) (Ministry of Jal shakti, 2021). The departments oversee regulation of the country's water resources, as well as establish policy guidelines and schemes. The central ministry's main functions are overall planning, policy development, collaboration, and guidance in the water resources sector setting up of utilizable resources and formulation of policies for optimal usage ,supervision of and assistance to state level activities in ground water development; and general organizational, technological, and scientific planning for development (Ministry of Jal shakti, 2017). It also frames

schemes and funds the S&UTs for better water management and facilitates inter-state consultations to resolve disputes on water.

The Jal Jeevan Mission (JJM), a centrally funded initiative, was launched on August 15, 2019, by the Department of Drinking Water and Sanitation, with an aim to link every rural household to a functional household tap connection (FHTC) by 2024. The Jal Jeevan Mission (JJM) includes the State Water and Sanitation Mission (SWSM), District Water and Sanitation Mission (DWSM), Gram Panchayat and/or its Subcommittees, such as the Village Water and Sanitation Committee (VWSC)/Paani Samiti/User Group, and others (Jal Jeevan Mission, 2021). As of June 11th, 2021, more than 7 million rural households had access to tap water (FHTC, 2021).

The Government of India launched the Swachh Bharat Mission (SBM), program in 2014 to achieve universal sanitation coverage in urban cities (SBM-Urban) and villages (SBM-Grameen). As a fitting tribute to Mahatma Gandhi's 150th birthday, the mission went on a drive to make all villages in all S&UTs in India as 17 "opendefecation free" (ODF) by October 2, 2019 (Swachh Bharath Mission, 2020).

To date, 6,03,004 villages have been declared Open Defecation Free

(Swachh Bharath Mission, 2021).

In 2019, the Ministry of Jal Shakti and the Department of Drinking Water and Sanitation launched the Jal Shakti Abhiyan, a missionmode water conservation campaign in India's waterstressed districts to raise

awareness and improve water conservation interventions (Ministry of Jal Shakti, 2019). The Swajal scheme, launched by the Ministry of Jal Shakti, empowers communities to plan and design single village drinking water supply systems, as well as coordinate community ownership for operations and maintenance. The Ministry of Jal Shakti works with UNICEF to improve the Swajal and the NRDWP to target 0.5 million populations every year in aspirational districts in the 28 states of India(DDWS, 2021). Swajal scheme also would help in prioritizing integrated water safety planning, behavior change, water quality management and participation of the community.

Civil society organizations, trusts, academic and research institutions, private industries, and their Corporate Social Responsibility (CSR) arms are the third kind of players who are involved in the drinking water services (Fig 3). They contribute to either directly or indirectly providing products or services for drinking water. Large trusts like the TATA Water Mission works with the state and central governments and undertake advocacy, communication, installation of purifiers and promote innovative projects for safe drinking water (Tata Trusts, 2021). Private enterprises or individuals can also finance and own a venture completely, that is fully responsible for all water related services.

They charge a price that customers are willing to pay. Private businesses may streamline operations by establishing consistent ownership and control over activities, resulting in cost-effective services that can

be maintained by revenue. Most are referred to as social entrepreneurs because they have a stated objective that is obviously beyond a profit motive. Naandi Community Water Services, Healthpoint Services, Sarvajal, Water life, and Spring Health are all notable examples (Bandyopadhyay, 2016).

State and Union Territories:

The S&UTs are responsible for water supply related operations, irrigation, funding water resource Projects, and cost recovery from these projects. The central government does offer financial aid to State governments for the purpose of conducting and implementing national-level initiatives and Other federally aided programs. However, the state must maintain and grow its water supplies primarily through its own funds. Most states manage their water supplies based on physical/administrative boundaries rather than hydro-geological ones (Bhatt & Bhatt, 2017).Since 1999, a new form of community management with government funding was developed. The Indian government started the process of incorporating community management into its national strategy by launching sector reform pilot projects (SRPP) in 67 districts across 26 states (Hutchings et al., 2017). The Panchayati Raj Institutions including the Gram Panchayats (GPs) and the village water and sanitation committees (VWSCs) mobilize community participation (Fig 3). District and state level organizations who have well-trained personnel, in turn guide and train the drinking water committee members of the PRIs .The State Pollution Control Boards (SPCBs) monitor the drinking water quality from the supply sources on a 19 regular basis. While the SPCBs of some states like Tamil Nadu, Maharashtra and Kerala perform better in testing and sharing data online, a few others are lagging. However overall, the coverage of water testing and data sharing, particularly on the microbial quality is not real-time across the country. Since the impact of poor drinking water quality immediately affects health, the routine testing and monitoring of drinking water to be a routine feature of all SPCBs daily.

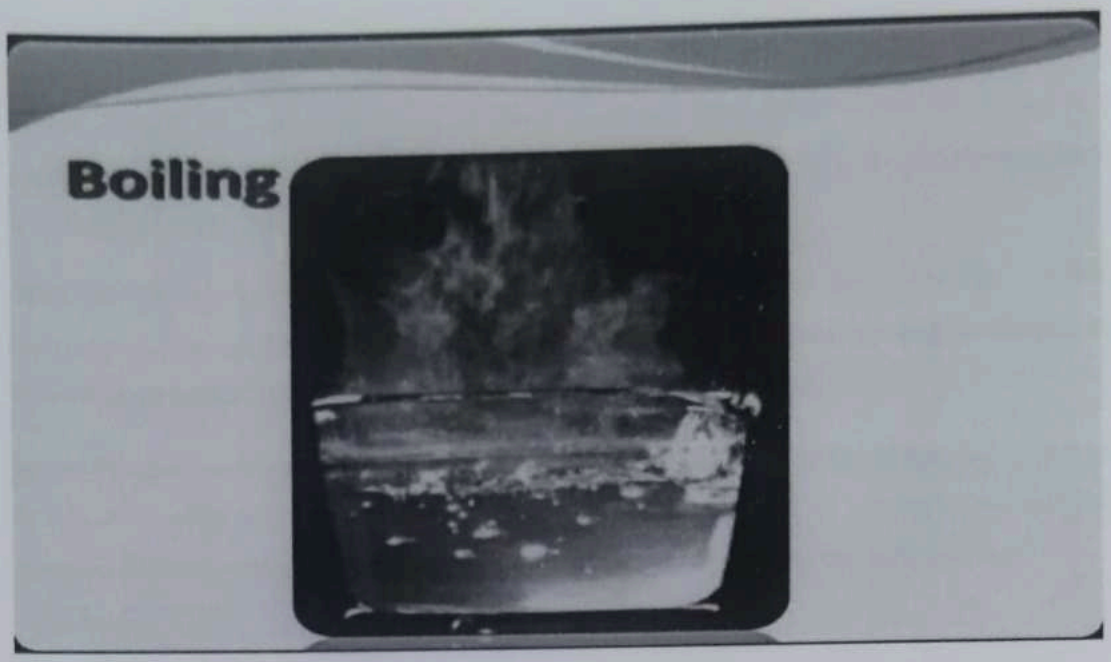
Chapter-3: Drinking Water Purification Methods

Drinking Water Purification Methods Drinking water treatment technologies focus on removal of physical (e.g., turbidity, suspended particles etc.), chemical (e.g., arsenic, iron, fluoride etc.), and biological (bacteria, virus, protozoans, helminths etc.) contaminants. The focus in this section is mainly on the commonly methods/technologies used in India for the removal and/or killing of microbial pathogens from drinking water, and their appropriateness for the vulnerable population. The reasons for this focus are that unlike physical or chemical contaminants, microbial pathogens in drinking water multiply and spread rapidly, killing 6000 U5 children every day globally through diarrheal diseases. Cholera for e.g., can take away a child's life in a few hours if not treated immediately. Simple technology and other interventions that 20 provide microbially safe drinking water can thus have a huge public health impact(UNICEF, 2010).

Diarrhea and drinking water contamination with pathogens burden the socio-economically vulnerable populations more than those well-off, and therefore any water treatment /intervention promoted should be simple, easy to use, intuitive, and affordable. While being effective, they should be safe and sustainable. Dependence on external resources should be minimal, instead local resources should be used as far as possible. It is extremely difficult to identify technologies that meet all the required criteria and therefore one or more appropriate technologies are being integrated. However, academic, and industrial organizations are constantly innovating to simplify existing technologies and in making them appropriate for the target population (DDWS, 2013). Treatment technologies can be classified based on the methods used as Physical, Chemical, and integrated .

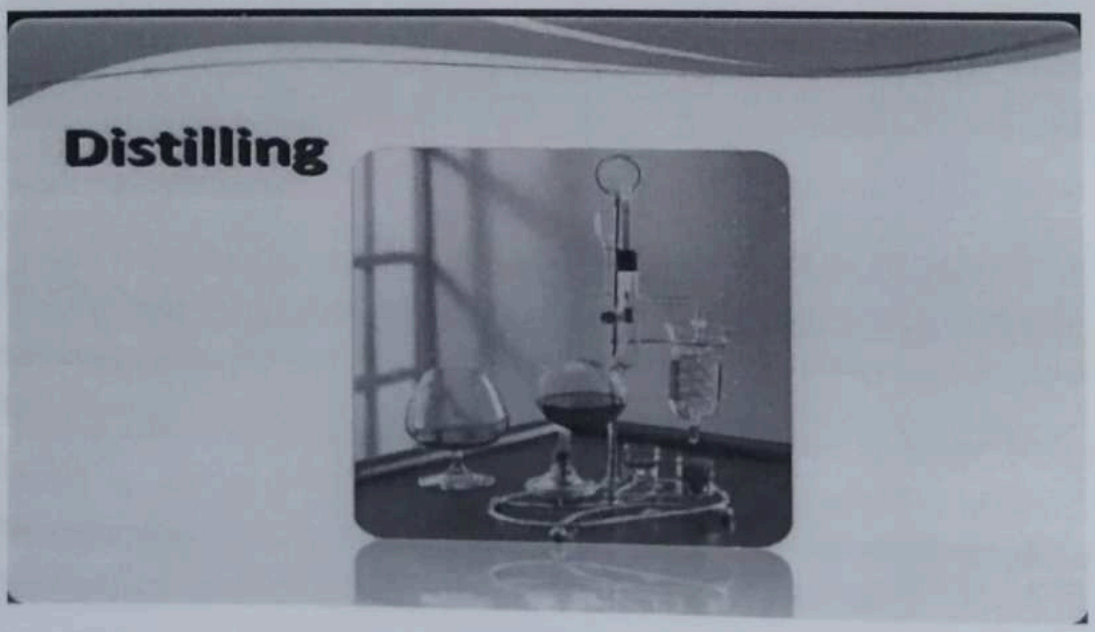
Boiling:

Boiling has been one of the most common and oldest methods of disinfecting household water for drinking and cooking purposes. Most water-borne pathogens are killed by bringing the water to a roll boil for at least 1 min, even though most are killed at lower temperatures (e.g., 70 °C) (Trösch, 2009). Thus, boiling is a simple and effective treatment method, especially as a household method (DDWS, 2013). However, the time and cost of heating, taste changes, recontamination due to bad handling, and scaling up are some of the limitations.



Distillation Systems:

The most common separation technique is distillation. The mixed components in water are separated using heat (Sharma & Bhattacharya, 2017)), which is a method of heating water to the point of boiling and then collecting the water vapour as it condenses, leaving behind several pollutants. This method is extremely effective against pathogens like protozoa, bacteria, and viruses, as well as the most common chemical pollutants like arsenic, barium, lead, nitrate, and a wide range of organic chemicals (CDC, 2009). However, the cost of heating and the loss of minerals are the main limitations, particularly when scaling up.



Water Purifiers:

Water purifiers are a convenient way of filtering any biological contaminants, unwanted chemicals, suspended solids or gases from contaminated water. This may be useful in many different experiments in a variety of chemistry, biology or physics disciplines.

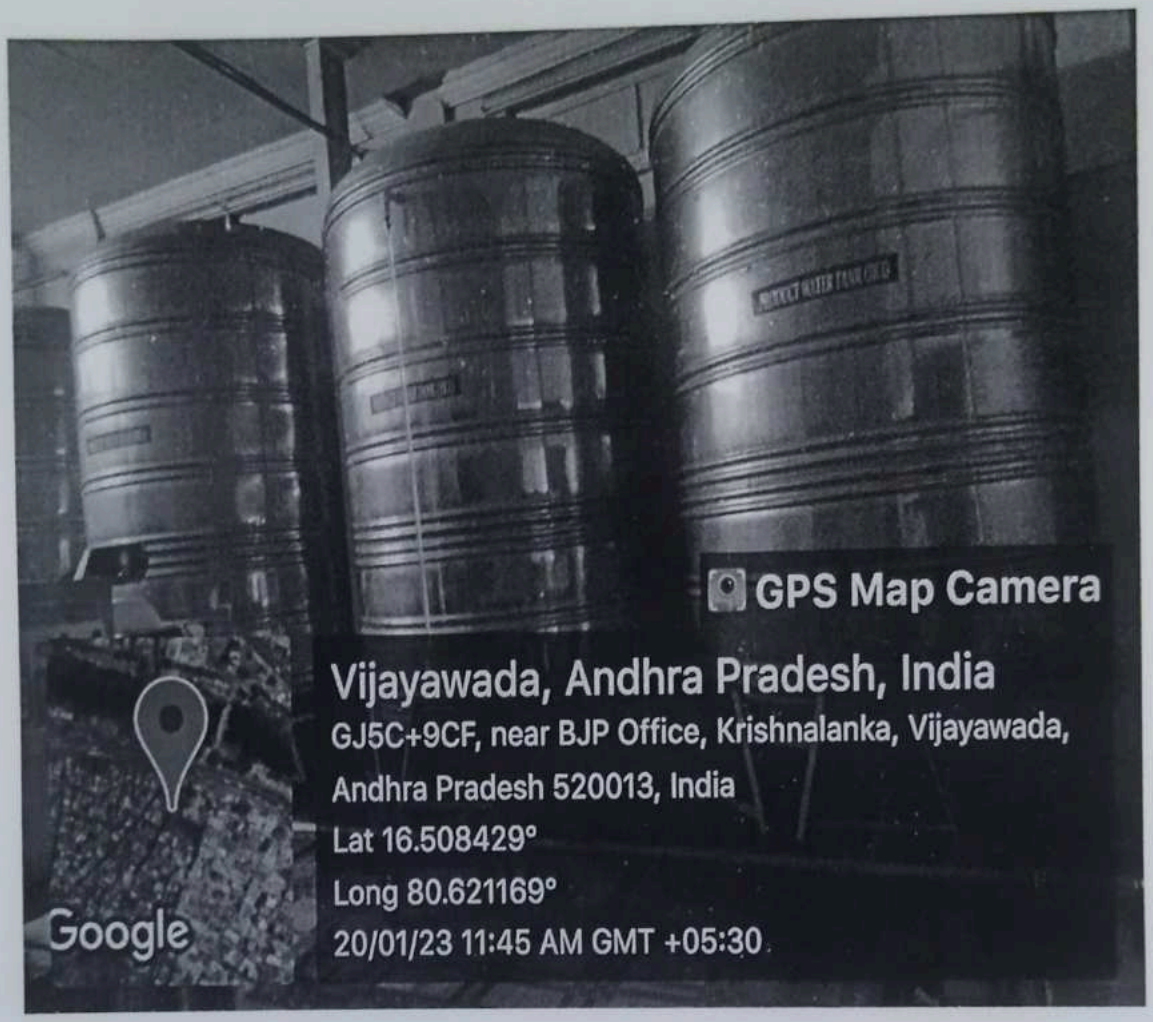
Water purifiers ensure that you get clean and safe drinking water on demand so that you stay away from water-borne diseases. There are different types of water filtration processes such as Reverse Osmosis Water Filtration (RO), Ultra Filtration (UF) and Ultra Violet disinfection (UV).

Water filtration works in one of two ways – physical filtration and chemical filtration. With physical 222filtration, water is strained, often through a gauze-like membrane, to remove larger particles. With chemical filtration, water is treated with patented smart technology to remove impurities.

Water Treatment Plants:

A water treatment plant is a destination where wastewater (water which is no longer fit for its current purpose) moves to once it leaves homes and businesses through sewage pipes. The sewage system contains miles of pipes below ground where wastewater flows to the treatment plant for processing.

Drinking water treatment plants are used to remove particles and organisms that lead to diseases and protect the public's welfare and supply pure drinkable water to the environment, people and living organisms. In addition, they also provide drinking water that is pleasant to the senses: taste, sight and smell and provide safe, reliable drinking water to the communities they serve.



Water treatment, as a word originally means the act or process of making water more potable or useful, as by purifying, clarifying, softening or deodorizing it.

To provide drinking water to the public is one of the most important tasks of communities and the design of water supply systems has to follow the rules of engineering sciences and also needs technical knowledge and practical experience. Water is treated differently in different communities depending on the quality of the water which enters the plant.

Water purification can significantly improve the quality of the water. Water purification systems remove all types of contaminants and hazardous substances from the water, which makes the water clean and safe to drink. You can get access to clean and refreshing water all round the clock!

Hydrogen Peroxide :

Hydrogen peroxide (H2O2) is a powerful oxidizer that is used to control biological growth in water. The Potency of H2O2 is greatly influenced by temperature, peroxide concentration, and response time. Combining H2O2 with ozone or UV light has become a practice to circumvent its limitations in recent Times. Usage of these new technologies is increasing worldwide for groundwater treatment, potable Drinking water, and industrial water treatment (DDWS, 2013).

Chapter-4 : Effects on Human Health

Effects on Human Health 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. Factors that can influence whether a contaminant will lead to health effects include the type of contaminant, its concentration in the water, individual susceptibility, the amount of water consumed, and the duration of exposure.

Health effects of chemical exposure:

Chemical exposure through drinking water can lead to a variety of short- and long-term health effects. Exposure to high doses of chemicals can lead to skin discoloration or more severe problems such as nervous system or organ damage and developmental or reproductive effects. Exposure to lower doses over long periods of time can lead to chronic, longerterm conditions such as cancer. The effects of some drinking water contaminants are not yet well understood.

Health effects of consuming water with diseasecausing microbes:

Most life-threatening waterborne diseases caused by microbes (such as typhoid fever or cholera) are rare in the United States today. The more common illnesses caused by viruses, bacteria, and parasites can result in stomach pain, vomiting, diarrhea, headache, fever, and kidney failure. Infectious diseases such as hepatitis can also occur. Hepatitis may be severe in people with weakened immune systems (e.g., infants and the elderly) and sometimes fatal in people with severely compromised immune systems (e.g., cancer and AIDS patients).

Globally, 785 million people lack access to clean drinking water. Every day, over 800 children die from dirty water, due to diarrhoea caused by poor water, sanitation and hygiene and scarce or unreliable water and sanitation facilities in many communities around the world.

The impacts of water scarcity affect families and their communities. Without clean, easily accessible water, they can become Locked in poverty for generations. Children drop out of school and parents struggle to make a living.

Women and children are worst affected - children because they are more vulnerable to diseases of dirty water and women and 26 girls because they often bear the burden of carrying water for their families for an estimated 200 million hours each day.

Access to clean water changes everything; it's a stepping stone to development. When people gain access to clean water, they are better able to practise good hygiene and sanitation.

Children enjoy good health and are more likely to attend school. Parents put aside their worries about water-related diseases and lack of access to clean water. Instead, they can focus on watering their crops and livestock and diversifying their incomes.

Not drinking enough water can cause an overall fluid loss in the body. This fluid loss can lead to a decrease in blood volume that puts excess pressure on the heart to deliver oxygen and nutrients to the organs, including the muscles. Lack of water can cause you to experience periods of fatigue and low energy as your body tries to function without enough water. If you're constantly feeling sluggish and tired despite getting a quality night's sleep, you may need to boost your water intake.

Water helps flush toxins, waste, and bacteria from the body to fight disease and infection as well as strengthens your immune system so you become sick less frequently. If it seems as though you're always getting sick, you may need to start drinking more water to keep your body free of toxins and functioning at an optimal level. Since lack of water also causes fatigue, you may tend to be less physically active—another risk factor for weakened immunity.

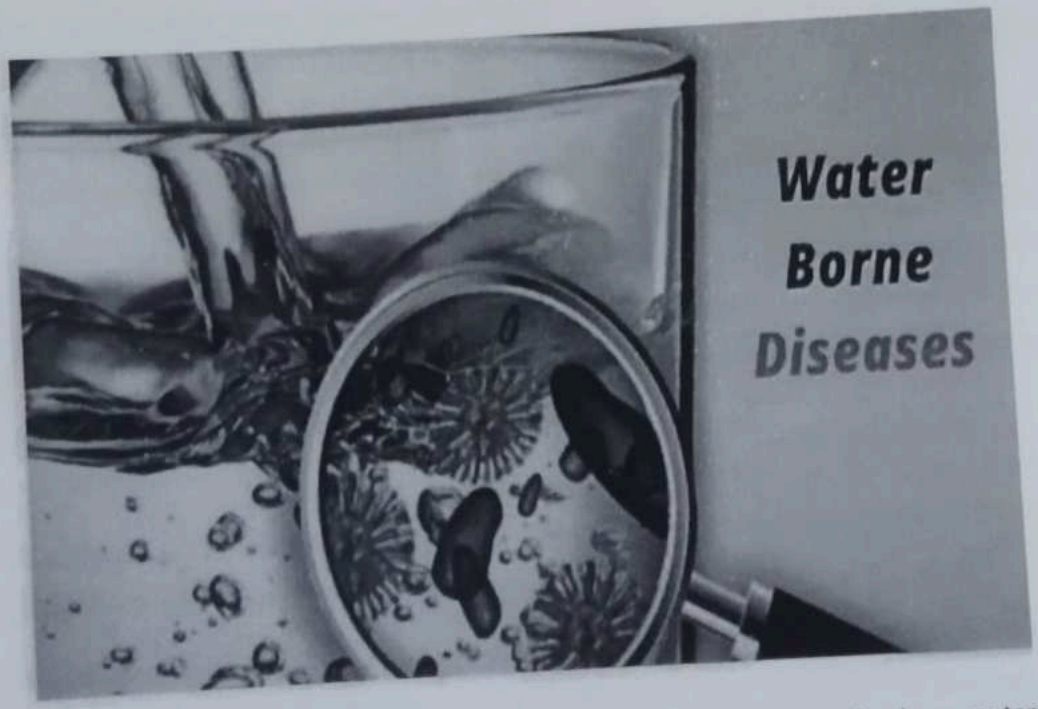
Water promotes good digestion and regular bowel movements by keeping your stool soft and moving it easily through the digestive tract. Not drinking enough water can cause your body 27 to pull water from stool to compensate for fluid loss, leading to harder and firmer stool that is more difficult to pass. If your bowel movements are irregular and infrequent, try drinking more water to loosen your stools and relieve constipation and bloating.

Water hydrates and plumps skin cells to make your skin look brighter, vibrant, and more youthful. However, lack of water can cause skin to lose its plumpness and elasticity—leading to dryness, flakiness, fine lines, wrinkles, and sagging skin. Water even helps reduce acne and other skin problems by flushing harmful toxins from the body. If beauty products and skin treatments are failing to improve the appearance of your skin, drink more water to achieve a more youthful appearance and to reduce or improve skin problems.

Dehydration interferes with the body's ability to reach into glucose stores for energy and can trigger cravings for foods high in sugar and carbohydrates. Unusual and sudden cravings for sugary foods like chocolate, donuts, cookies, and candies may indicate that your body is in great need of water—not food. If you're experiencing sugar cravings or hunger pangs even though you've recently eaten, try drinking more water to rehydrate your body and keep cravings at bay.

When your body is dehydrated, the kidneys retain as much fluid as possible to maintain their function. This can lead to decreased urination—one of the most common signs of low water intake. Lack of water can cause your urine to become darker in colour, stronger in odour, and cloudier in appearance. You may also face a higher risk of urinary tract infection when your body lacks enough water to flush out toxins and bacteria. You'll know you're drinking enough water when you start 28 urinating more frequently and the urine is clearer, lighter in colour, and far less odorous.

These diarrheal diseases (such as cholera) kill more children than AIDS, malaria, and measles combined, making diarrheal disease the second leading infectious disease cause of death among children under five.



The germs that cause diarrhea are commonly spread by food or water that has been contaminated with human or animal feces (poop). This contamination can occur in the environment because of inadequate sanitation and inadequate protection of drinking water sources and food products or in the home through unsafe water storage and inadequate hygiene.

Diarrhea is not the only disease spread through unsafe water and poor sanitation and hygiene practices. Neglected tropical diseases (such as schistosomiasis and Guinea worm disease) can be reduced almost 80% with improved hygiene, sanitation, and safe water access3. In fact, access to safe water and hygiene and sanitation has the potential to prevent at least 9.1% of the global disease burden and 6.3% of all global deaths.

Numerous types of contaminants can threaten drinking water. They include everything from chemicals to pesticides to animal waste to industrial waste injected into the ground. Naturally occurring substances, such as arsenic, radon and fluoride, can also contaminate groundwater.

Waterborne pathogens, including bacteria, viruses and parasites, can also contaminate water. Between 2013 and 2014, more than three dozen water-related outbreaks were reported to the Centres for Disease Control and Prevention. These outbreaks resulted in more than 1,000 illnesses, 124 hospitalizations and 13 deaths.

Copper, Salmonella, Hepatitis A, Cryptosporidium, E. coli and excessive fluoride (tie) these contaminants can lead to severe illness, including gastrointestinal upset, neurological problems and reproductive issues. They are especially dangerous to the very young and very old and to those with compromised immune systems.

In recent years, there have also been reports of pharmaceutical drugs in the water supply. Fortunately, the concentrations of these drugs are extremely low and unlikely to cause any considerable health effects, according to a 2012 study by the Water disinfection can also cause the formation of dangerous 30 byproducts, such as bromates, haloacetic acids and trihalomethanes — all of which can increase your risk of cancer. Other byproducts, such as chlorite, can cause anemia and nervous system problems in babies and children.

Even weather can adversely affect water quality. High temperatures and warmer waters can cause harmful algae blooms. Toxic blue-green algae prefer warm, slow-moving water. They're also triggered by excessive levels of nutrients, such as nitrogen and phosphorus.

When water comes from improved and more accessible sources, people spend less time and effort physically collecting it, meaning they can be productive in other ways. This can also result in greater personal safety and reducing musculoskeletal disorders by reducing the need to make long or risky journeys to collect and carry water. Better water sources also mean less expenditure on health, as people are less likely to fall ill and incur medical costs and are better able to remain economically productive.

With children particularly at risk from water-related diseases, access to improved sources of water can result in better health, and therefore better school attendance, with positive longerterm

Survey Information

1. Tank Water tanks are used to providestorage of water for use in many applications, drinking water, irrigation agriculture, fire suppression, agricultural farming, both for plants and livestock, chemical manufacturing, food preparation as well as many other uses. Water tank parameters include the general design of the tank, and choice of construction materials, linings. 31 Various materials are used for making

a water tank: plastics (polyethylene, polypropylene), fiberglass, concrete, stone, steel (welded or bolted,[citation needed] carbon, or stainless). Earthen pots, such as matki used in South Asia, can also be used for water storage. Water tanks are an efficient way to help developing countries to store clean water. Throughout history, wood, ceramic and stone tanks have been used as water tanks. These containers were all naturally occurring and some man made and a few of these tanks are still in service. The Indus Valley civilization (3000–1500 BC) made use of granaries and water tanks. Medieval castles needed water tanks for the defenders to withstand a siege. A wooden water tank found at the Año Nuevo State Reserve (California) was restored to functionality after being found completely overgrown with ivy. It had been built in 1884

2. Cylinder Water purifiers contain different types of filters but what kind of contaminant does each type filter out? What should you look for when buying a water filter for your home?

Filter of a water purifier

Pure, clean and safe drinking water isn't available easily these days. Growing population, industrial development and environmental degradation are all causes for this. Given this situation, it becomes even more important for us to be aware of purification techniques and the available water purifiers in the market to ensure that our drinking water is of good quality.

A lot of minerals are found naturally in water and are important for the human body but consuming an excess amount of it can cause many diseases. A good water purifier removes the excess salts, suspended

particles and microbes, and retains its essential vitamins and minerals. With so many manufacturers in the water purification industry these days, it is difficult to know which is good, which isn't and which meets necessary standards.

Both water filters and water purifiers work on the same mechanical principle. They first suck up raw water which is contaminated, filter out impurities ranging from sediments to micro-organisms and then dispense clean water. However there is one big difference between the two – a purifier can remove viruses and bacteria that filters cannot remove. Some purifiers use chemicals and others use an electro-static charge to kill or capture viruses.

3. Memorian CRM ceramic membrane is made of high-purity Oxide like Al_2O_3, ZrO_2, TiO_2 and other composite materials,using a patented formula. The material is mixed, extruded and burned in furnace under very high temperature(> 1700°C). The appearance of ceramic membrane is tubular multi-channel,

formed in an asymmetric porous multilayer structure. From the outside to the inside, it is porous support base, intermediate layer,active membrane layers. By using special recipe, TFT can make very fine active layer with pore size down to nanometer or even molecular level. This will bring possibility for fine filtration in solid-liquid separation or liquid-liquid separation. The operation principle of CRM ceramic membrane is dynamic "cross-flow filtration" by internal pressure from Inside to Outside. The raw liquid is pumped into the membrane element at a high linear speed. Water,dissolved components, solvent passes through the membrane layer, forming a clear and transparent filtrate called Permeate. Insoluble suspended matter, bacteria, oil or macromolecular components are rejected by the active membrane layer, forming a concentrated liquid called Retentate or Concentrate. The retentate flows out from the other end of the channel, and circulate inside the element.Different from traditional filtration methods such as filter press or centrifuges, people can control the filtration precision by using ceramic membrane with different pore sizes, which can achieve extremely accurate filtration precision.For industrial applications,the ultra high filtration precision in the clarification step will bring big benefit for post treatment after ceramic membrane. What's more,CRM ceramic membranes are made of highly stable oxides which 34 have excellent chemical stability. Ceramic membrane is a good option for ultra-high precision separation of complex fluid under harsh condition in process industry.

Since the fluid flows at a high linear speed on the surface of the microporous membrane layer, it is not easy to accumulate on the surface of the filter layer to form a thick filter cake. Stable filtration flux can keep for a long time because of the low filtration resistance and easy regeneration.

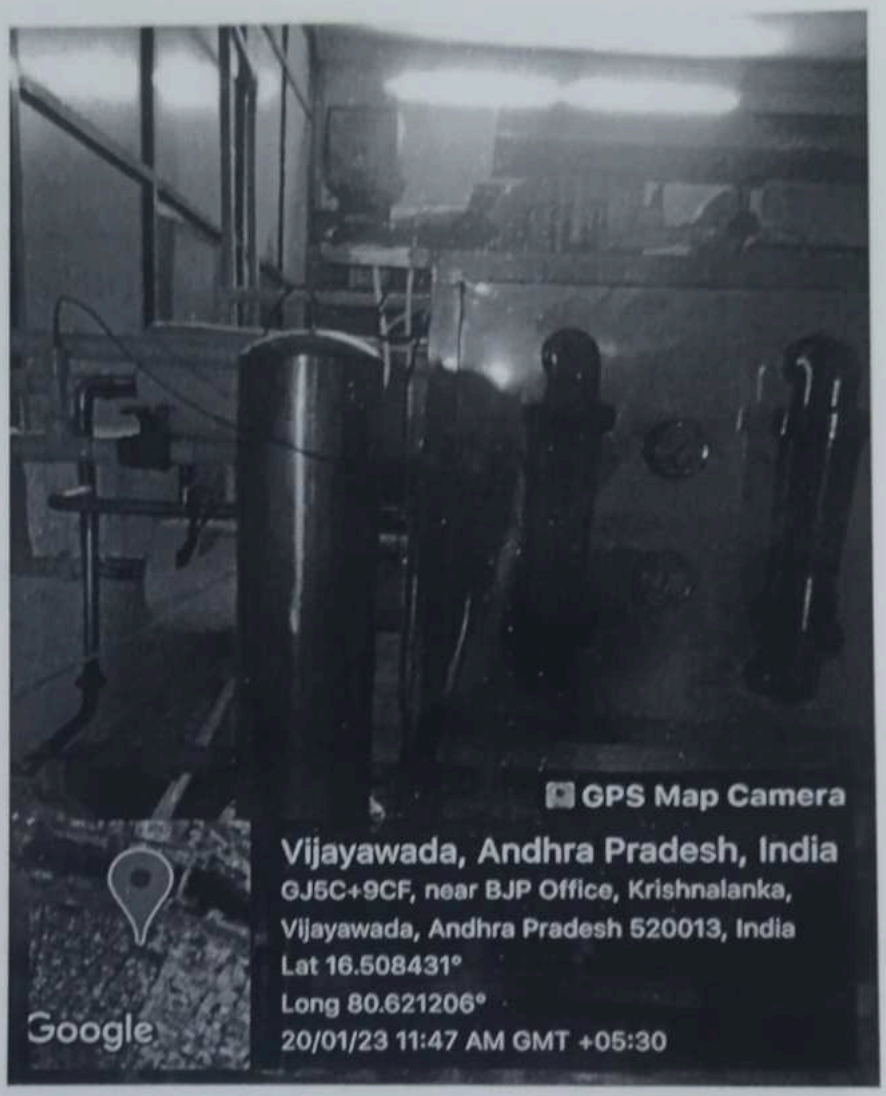
Ceramic membranes have been proved to be a reliable economical green separation technology for modern industries.

4. Cleaning Drum cylindrical filter membrane that is partly sub-merged in a slurry to be filtered. The inside of the drum is held lower than the ambient pressure. As the drum rotates through the slurry, the liquid is sucked through the membrane, leaving solids to cake on the membrane surface while the drum is submerged. A knife or blade is positioned to scrape the product from the surface. Oliver-type rotary vacuum-drum filter.

The technique is well suited to slurries, flocculated suspensions, and liquids with a high solid content, which could clog other forms of filter. It is common to pre-coated with a filter aid, typically of diatomaceous earth (DE) or Perlite. In some implementations, the knife also cuts off a small portion of the filter media to reveal a fresh media surface that will enter the liquid as the drum rotates. Such systems advance the knife automatically as the surface is removed.

5. Hp motor IQS Directory provides an extensive listof 1 horsepower electric motor manufacturers and suppliers. Utilize our website to review and source 1 horsepower electric motor manufacturers with our easy-to-use features which allow you to locate 1 horsepower electric motor companies that will design, engineer, and manufacture 1 horsepower electric motors for your exact specifications. Our request for quote forms make it easy to connect with leading 1 horsepower electric motor manufacturers. View company profiles, website links, locations, phone number, product videos, customer reviews, product specific news articles and other production information. We are a leading manufacturer directory who will connect you with the right manufacturers whether you are looking for industrial motors, 2 horsepower motors, or 12V motor.

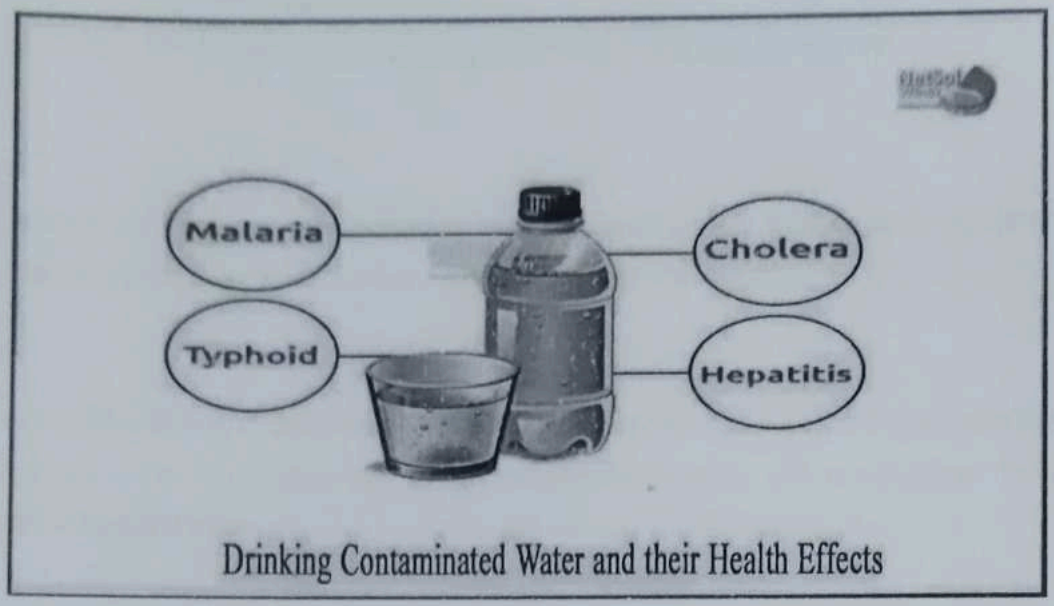
6. Filter's An information filtering system is a system that removesredundant or unwanted information from an information stream using (semi)automated or computerized methods prior to presentation to a human user. Its main goal is the management of the information overload and increment of the semantic signal-to-noise ratio. To do this the user's profile is compared to some reference characteristics. These characteristics may originate from the information item (the content-based approach) or the user's social environment (the collaborative filtering approach).



Whereas in information transmission signal processing filters are used against syntax-disrupting noise on the bit-level, the methods employed in information filtering act on the semantic level.

The range of machine methods employed builds on the same principles as those for information extraction. A notable application can be found in the field of email spam filters. Thus, it is not only the information explosion that necessitates some form of filters, but also inadvertently or maliciously introduced pseudo-information.

On the presentation level, information filtering takes the form of user-preferences-based newsfeeds, etc.



Recommender systems and content discovery platforms are active information filtering systems that attempt to present to the user information items (film, television, music, books, news, web pages) the user is interested in. These systems add information items to the information flowing towards the user, as opposed to removing information items from the information flow towards the user. Recommender systems typically use collaborative filtering approaches or a combination of the collaborative filtering and content-based filtering approaches, although content-based recommender systems do exist

Chapter -5 : Conclusion

• Over 2 billion people live in water-stressed countries, which is expected to be exacerbated in some regions as result of climate change and population growth.

• Globally, at least 2 billion people use a drinking water source contaminated with faeces. Microbial contamination of drinking-water as a result of contamination with faeces poses the greatest risk to drinking-water safety.

• While the most important chemical risks in drinking water arise from arsenic, fluoride or nitrate, emerging contaminants such as pharmaceuticals, pesticides, per- and polyfluoroalkyl substances (PFASs) and microplastics generate public concern.

• Safe and sufficient water facilitates the practice of hygiene, which is a key measure to prevent not only diarrhoeal diseases, but acute respiratory infections and numerous neglected tropical diseases. • Microbiologically contaminated drinking water can transmit diseases such as diarrhoea, cholera, dysentery, typhoid and polio and is estimated to cause 485 000 diarrhoeal deaths each year.

• In 2020, 74% of the global population (5.8 billion people) used a safely managed drinking-water service – that is, one located on premises, available when needed, and free from contamination.

• Of the 4.5 billion people who do not have safely managed sanitation, 2.3 billion still do not have basic sanitation services. This includes 600 million people who share a toilet or latrine with other households, and 892 million people – mostly in rural areas – who defecate in the open. Due to population growth, open defecation is increasing in subSaharan Africa and Oceania.

• Good hygiene is one of the simplest and most effective ways to prevent the spread of disease. For the first time, the SDGs are monitoring the percentage of people who have facilities to wash their hands at home with soap and water. According to the new report, access to water and soap for handwashing

varies immensely in the 70 countries with available data, from 15 per cent of the population in subSaharan Africa to 76 per cent in western Asia and northern Africa.

• Many countries lack data on the quality of water and sanitation services. The report includes estimates for 96 countries on safely managed drinking water and 84 countries on safely managed sanitation.

• In countries experiencing conflict or unrest, children are 4 times less likely to use basic water services, and 2 times less likely to use basic sanitation services than children in other countries.

• There are big gaps in service between urban and rural areas. Two out of three people with safely managed drinking water and three out of five people with safely managed sanitation services live in urban areas. Of the 161 million people using untreated surface water (from lakes, rivers or irrigation channels), 150 million live in rural area.

CHAPTER-4

ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	All group members are combined and discuss the above the project	Surveying	
Day - 2	All group members are combined and discuss the above the project	Surveying	
Day - 3	All group members are combined and discuss the above the project	Surveying	
Day - 4	All group members are combined & discuss the above the project	Surveying	
Day - 5	All group members are combined & discuss the above the project	Surveying	
Day - 6	All group members are combined & discuss the above the project	Surveying	

WEEKLY REPORT

WEEK - 1 (From Dt..... to Dt .....)

Objective of the Activity Done: Problems Identification.

Detailed Report:

In this first week, our mentor made team will 2 members to be community Service project is near by krishna Lanka area like Vijayawada. which is under Vijayawada Municipality Coperation we selected a topic "water pollution and Effects.

The people suffered water Borne disease, and the areas, krishnalanka in some areas and Some check in other some places.

In first week we Identify the problems are of water pollution causes.

The problems are.

1. Health problems.
2. Garbbage dumping
3. Inproper water storage.
4. Some flods & rivers are mixed in wastage.

After completed the surviving this is the main problems of our topic, causes of water pollution.

ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	Survey on the how the water polluting.	Surveying.	
Day - 2	Survey on the how the water polluting.	Surveying	
Day – 3	Survey on the how the water polluting.	Surveying	
Day – 4	Survey on the how the water polluting.	Surveying	
Day – 5	Survey on the how the water polluting	Surveying	
Day – 6	Survey on the how the water polluting.	Surveying.	

WEEKLY REPORT

WEEK - 2 (From Dt..... to Dt .....)

Objective of the Activity Done: Study of water pollution, Drinking water

Detailed Report:

Water pollution Drinking water

A water pollution can be defined as the potter formed by the rivers and lake in a particularly water storage places.

Point sources

Waste water effoient municipal & Industrial Run off and leach from waste disposal site over flow of combined storm and sanitory sewers. Run off from mines oil fuel due, unsewered Industrial cities

Non point sources

Runoff from agriculture (Including return flow from irrigated agriculture) Runoff from posture and range urban runoff unsewered & sewered area with a population.

ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Identifying the problems facing by people	surveying	
Day - 2	Identifying the problems facing by people	surveying	
Day - 3	Identifying the problems facing by people	surveying	
Day - 4	Identifying the problem facing by people	surveying	
Day - 5	Identifying the problem facing by people	surveying	
Day - 6	Identifying the problem facing by people.	surveying	

WEEKLY REPORT

WEEK - 3 (From Dt..... to Dt .....)

Objective of the Activity Done: Solution of Drinking water and Effects

Detailed Report:

Drinking water and public health :-

Sanitation, drinking water and public health are costly connected on this planet 2.5 billion people do not have access to clean water upto 90% of waste water are moving rivers and lakes that causes no one drinking in river water are some many health problems are caused.

There is a solution of Improper drinking water that is water purifier water purifier the water purifier are the distilled water mix with some minerals and health diseases and purifier are caused. The medical proved in water purifier are use ful.

ACTIVITY LOG FOR THE FORTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Awareness & suggestion to drink safe water for people	surveying.	
Day - 2	Awareness & suggestion to drink safe water for people	surveying.	
Day - 3	Awareness & suggestion to drink safe water for people.	surveying	
Day - 4	Awareness & suggestion to drink safe water for people	surveying	
Day - 5	Awareness & suggestion to drink safe water for people.	surveying	
Day - 6	Awareness & suggestion to drink safe water for people.	surveying	

WEEKLY REPORT

WEEK - 4 (From Dt..... to Dt .....)

Objective of the Activity Done: Drinking water awareness in purification method

Detailed Report:

In this week we use a purionitise, globally this is especially true for drought and flood prone areas which effected a third of Indian population in the fast couple of years.

The Drinking Water awareness how to are purified water method in that areas.

ACTIVITY LOG FOR THE FIFTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Surveying the people	Data collection	Panchayat Secretary Gr. VI (Digital Assistant), Code :10690719 Kondapalli Sachivalayam - 2 Ibrahimpatnam(M), Krishna (Dt)-521 228
Day - 2	Surveying the people	Data collection.	Panchayat Secretary Gr. VI (Digital Assistant), Code :10690719 Kondapalli Sachivalayam - 2 Ibrahimpatnam(M), Krishna (Dt)-521
Day - 3	Surveying the people	Data collection	Panchayat Secretary Gr. VI (Digital Assistant), Code :10690719 Kondapalli Sachivalayam - 2 Ibrahimpatnam(M), Krishna (Dt)
Day - 4	Study of water pollution causes Effects and their problems.	Data Analysis.	Panchayat Secretary Gr. VI (Digital Assistant), Code :10690719 Kondapalli Sachivalayam - 2 Ibrahimpatnam(M), Krishna (Dt)-521
Day - 5	Study of water pollution causes Effects and their problems	Data Analysis.	Panchayat Secretary Gr. VI (Digital Assistant), Code :10690719 Kondapalli Sachivalayam - 2 Ibrahimpatnam(M), Krishna
Day - 6	Study of water pollution, causes, Effects and their problems.	Data Analysis.	Panchayat Secretary Gr. VI (Digital Assistant), Code :10690 Kondapalli Sachivalayam Ibrahimpatnam(M), Krishna (Dt)

WEEKLY REPORT

WEEK – 5 Dt..... to Dt.....)

Objective of the Activity Done: Drinking water awareness.

Detailed Report:

In this 5th week we are Identification the major problem of Drinking water that is some people are cause in Purifier drinking water and knee problem & some problems are Effected that solution. the proper mineral are mixed in water that way the water are proper way. In mineral water mixed [calcium, potasium, sodium, salt] are mixed.

ACTIVITY LOG FOR THE SIXTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Solution of water pollution Drinking water	Problem solving	Panchayat Secretary Gr. V (Digital Assistant), Code :1069071, Kondapalli Sachivalayam - 2 Ibrahimpatnam(M), Krishna (Dt)-521
Day - 2	Solution of water pollution Drinking water	Problem solving	Panchayat Secretary Gr. (Digital Assistant), Code :1069071 Kondapalli Sachivalayam - 2 Ibrahimpatnam(M), Krishna (Dt)-521
Day - 3	Solution of water pollution Drinking water	Problem solving	Panchayat Secretary Gr (Digital Assistant), Code :1069 Kondapalli Sachivalayam
Day - 4	Complain and slogan.	Implementation.	Panchayat Secretary Gr. (Digital Assistant), Code :1069071 Kondapalli Sachivalayam - 2 Ibrahimpatnam(M), Krishna (Dt)-521
Day - 5	Complain and slogan.	Implementation	Panchayat Secretary G (Digital Assistant), Code :1069 Kondapalli Sachivalayam
Day -6	Complain and slogan.	Implementation.	Panchayat Secretary Gr. (Digital Assistant), Code :1069071 Kondapalli Sachivalayam Ibrahimpatnam(M), Krishna

WEEKLY REPORT

WEEK – 6 (From Dt..... to Dt.....)

Objective of the Activity Done:

Detailed Report:

In this last week we are campaining and to awareness Drinking water to use a slogane and etc.

Student Self-Evaluation for the Community Service Project

Student Name: Neelam Venkat Naga Raj kumar

Registration No: 21H75A0370

Period of CSP: 6 weeks.

Date of Evaluation:

Please rate your performance in the following areas:

Rating Scale: **Letter grade of CGPA calculation to be provided**

1	Oral communication	1	2	3	4 ✓	5
2	Written communication	1	2	3	4	5 ✓
3	Proactiveness	1	2	3	4 ✓	5
4	Interaction ability with community	1	2	3	4 ✓	5
5	Positive Attitude	1	2	3	4	5 ✓
6	Self-confidence	1	2	3	4	5 ✓
7	Ability to learn	1	2	3	4	5 ✓
8	Work Plan and organization	1	2	3	4 ✓	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3 ✓	4	5
11	Quality of work done	1	2	3	4 ✓	5
12	Time Management	1	2	3	4 ✓	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4 ✓	5 ✓
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

N.Venkat Naga Raj Kumar.

Signature of the Student

Date:

Evaluation by the Person in-charge in the Community / Habitation

Student Name: Nedom Venkat Naga Raj kumar

Registration No: 21H15A0370

Period of CSP:

Date of Evaluation:

Name of the Person in-charge:Address with mobile number:

Please rate the student's performance in the following areas:

Please note that your evaluation shall be done independent of the Student's self-evaluation

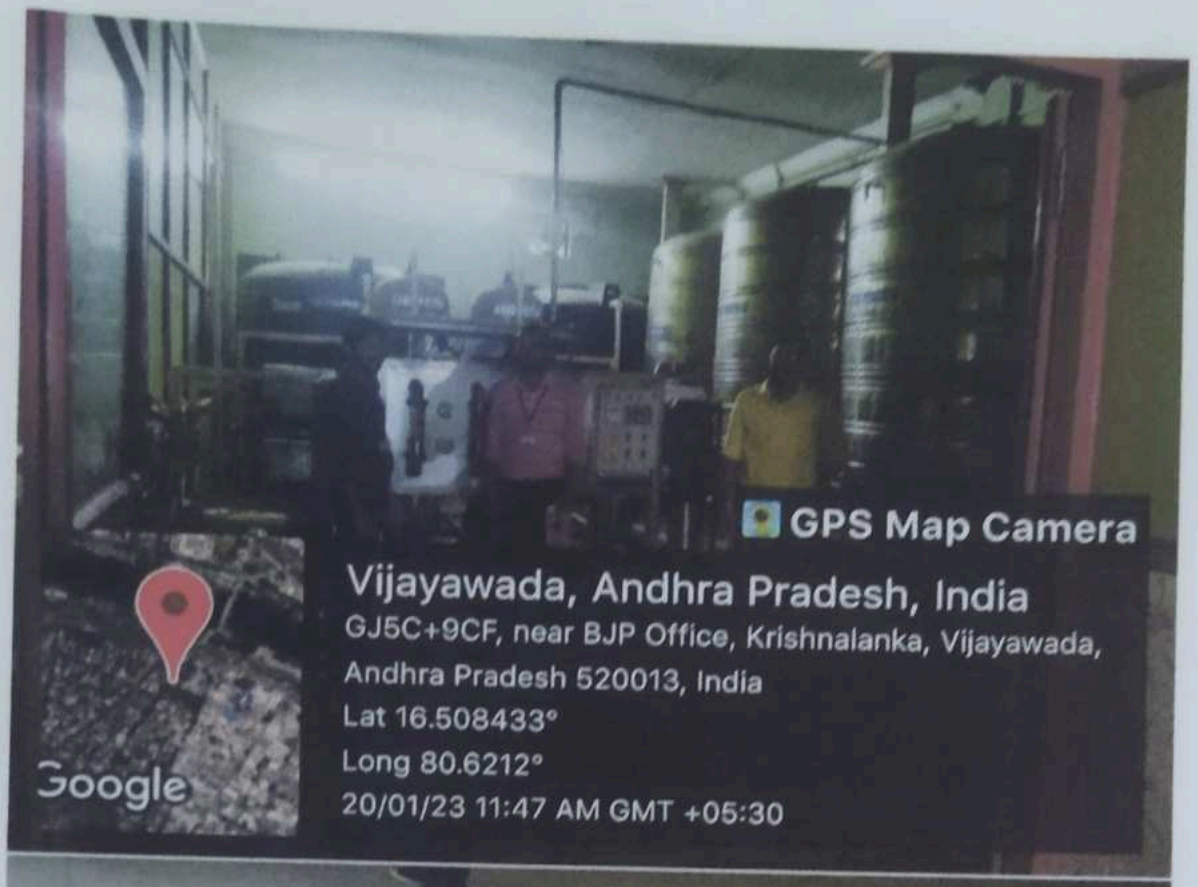
Rating Scale: 1 is lowest and 5 is highest rank

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Proactiveness	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	OVERALL PERFORMANCE	1	2	3	4	5

Date:

Signature of the Supervisor

Sprinkler
GPS Map Camera
Vijayawada, Andhra Pradesh, India
GJ5C+GH6, Biyyam Kotla Bazar, Krishnalanka,
Vijayawada, Andhra Pradesh 520013, India
Lat 16.508567°
Long 80.62137°
20/01/23 11:52 AM GMT +05:30
Google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Andhra Pradesh 520013, India
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GPS Map Camera
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Vijayawada, Andhra Pradesh 520013, India
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Long 80.623999°
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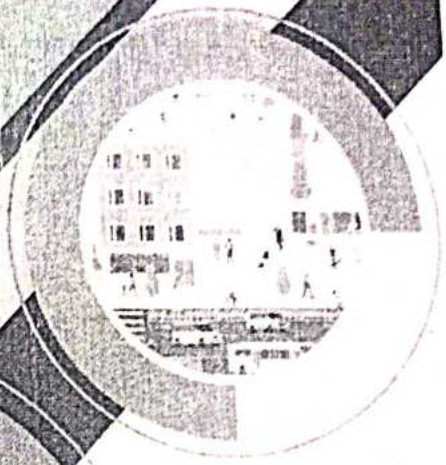
Google

ANDHRA PRADESH
STATE COUNCIL OF HIGHER EDUCATION
(A Statuory Body of the Government of Andhra Pradesh)
2nd, 3rd, 4th and 5th floors, Neeladri Towers, Sri Ram Nagar, 6th Battalion Road
Atmakur (V)Mangalagiri (M), Guntur, Andhra Pradesh, Pin - 522 503
www.apsche.ap.gov.in

Model Program Book

COMMUNITY SERVICE PROJECT



Designed & Developed by

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

(A STATUTORY BODY OF GOVERNMENT OF ANDHRA PRADESH)

DVR & Dr. HS
MIC College of Technology
ISO 9001:2015 Certified Institute
(Approved by AICTE & Permanently Affiliated to JNTUK, Kakinada)
Kanchikacherla - 521180, NTR Dist, A.P, India
Phones: 08678 - 273535 / 94914 57799 / 73826 16824
E mail: office@mictech.ac.in, Website: www.mictech.edu.in

AUTONOMOUS
Accredited by NAAC With Grade A

PROGRAM BOOK
FOR
COMMUNITY SERVICE PROJECT

Name of the student : MATCHA VENKATA VAMSI

Name of the college : DVR & DR HS MIC COLLEGE OF TECHNOLOGY

Registration number : 21H75A0375

Period of CSP: 6 weeks

From: 30-07-22 **To:** 13-08-2022

From: 09-01-23 **To:** 22-01-23

Name & Address of the Community/ Habitation:
Nizamptnam, Bapatala distric, Andhra pradesh

JNTU - KAKINADA

YEAR: 2022 -2023

Community Service Project Report

Submitted in accordance with the requirement for the degree of..B-Tech

Name of the college	:	**DVR & DR HS MIC COLLEGE OF TECHNOLOGY**
Department	:	**MECHANICAL ENGINEERING**
Name of the faculty guide	:	**D. DIVYA**
Duration of the CSP	:	**FROM: 09-01-23 TO: 22-01-23**

NAME OF THE STUDENT	:	**MATCHA VENKATA VAMSI**
PROGRAMME OF STUDY	:	**B.TECH**
YEAR OF STUDY	:	**III YEAR**
REGISTRATION NUMBER	:	**21H75A0375**
DATE OF SUBMISSION	:	**30TH JAN 2023**

Student's Declaration

I, M. VENKATA VAMSI, a student of B-TECH Program, Reg. No. 21H75A0375 of the Department of MECHANICAL, MIC COLLEAGE TECH College do hereby declare that I have completed the mandatory community service from 30-07-22 to 22-01-23 in VINJCULTURE *(Name of the Community/ Habitation)* under the Faculty Guideship of M.S. D. DIVYA, *(Name of the Faculty Guide)*, Department of MECHANICAL ENGINEERING in DVR & Dr. HS MIC COLLEGE OF TECH. College.

M. VENKATA VAMSI
30-01-2023
(Signature and Date)

Endorsements

D. Divya
CSP- Faculty Guide

Head of the Department

Head of the Department
Dept. of Mechanical Engg.
DVR & Dr. HS MIC College of Technology
Kanchikacherla, Krishna Dt.
Andhra Pradesh, India – Pin: 521180.

19/2/23
Principal

Certificate from
Official of the Community

This is to certify that **MATCHA VENKATA VAMSI** *(Name of the Community Service Volunteer)* Reg. No **21H75A0375** of **DVR & DR HS**

MIC COLLEGE OF TECHNOLOGY *(Name of the college)* underwent community service

In **VINICULTURE** *(Name of the community)* from 30-07-22 to 13-08-22

_____ (Phase-I) and from 09-01-23 to 22-01-23 (Phase-II).

The overall performance of the community service volunteer during his/her community service

is found to be *(Satisfactory/Good)*

Village Development Officer
MUTHUPALLI Village
Nizampatnam Mandal

Authorized Signatory with Date and Seal

Acknowledgements

We wish to express our sincere gratitude to our esteemed guide Ms. D. DIVYA for his valuable guidance, encouragement and gracious support throughout the work. His valuable suggestions, effusive co-ordination and encouraging interactions were a great driving once for us to carry out this Community Service Project.

We are grateful to Dr. D.V. Siva Reddy Head of the Mechanical Engineering Department, for his support and permitting us to take up our project work and to complete the project successfully.

We express our sincere thanks to Dr. K. Srinivas Principal, DVR & Dr. HS MIC College of Technology, Kanchikacherla.

We are also thankful to M. M BABU official of the community, who gives support to us during this work and others who assisted us in this community project work.

21H75A0375 (one member)

Project Members

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CHAPTER-1

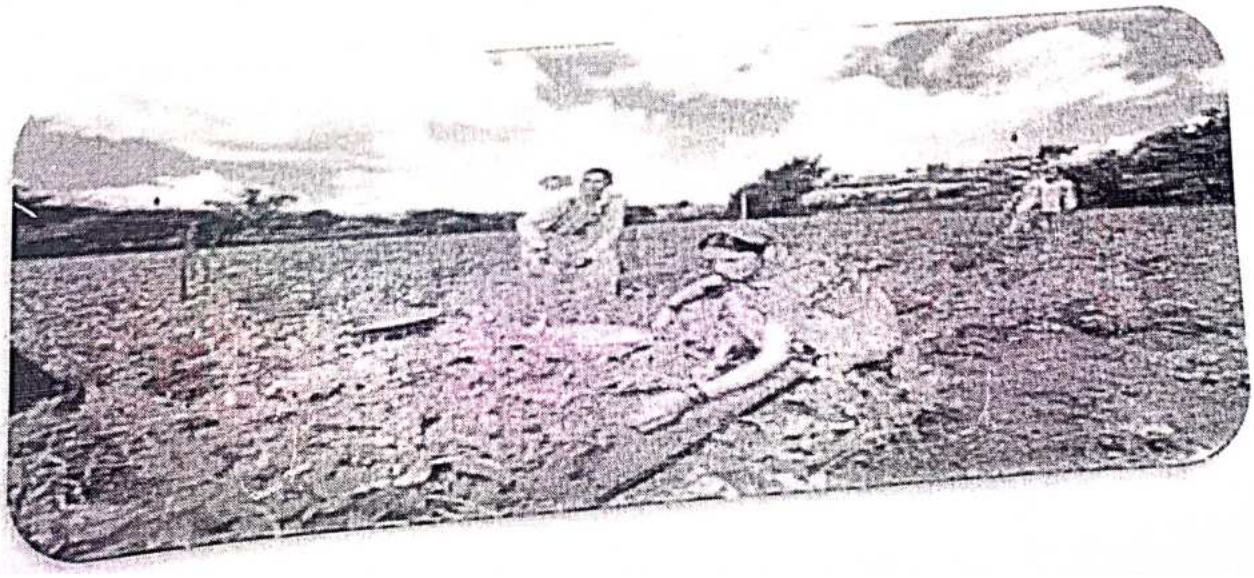
INTRODUCTION

Viniculture is the branch of agriculture that deals with the art, science, technology, and business ofplant cultivation. It includes the cultivation of fruits, vegetables, nuts, seeds, herbs, sprouts, mushrooms, algae, flowers, seaweeds, and non-food crops such as grass and ornamental trees and plants. It also includesplant conservation, landscape restoration, landscape and garden design, construction, and maintenance, and arboriculture, ornamental trees and lawns

The study and practice of Viniculture have been traced back thousands of years. Viniculture contributed tothe transition from nomadic human communities to sedentary, or semi-sedentary, horticultural communities. Viniculture is divided into several categories which focus on the cultivation and processingof different types of plants and food items for specific purposes. In order to conserve the science of Viniculture, multiple organizations worldwide educate, encourage, and promote the advancement of Viniculture

What Is the Viniculture

Viniculture, from Latin hortus meaning garden and colure meaning to cultivate, focuses on the use ofsmall plots in contrast to agronomy which involves intensive crop farming and large-scale field crop production of grains and forages or forestry involving forest trees and products derived from them. It deals with garden crops such as ornamental plants grown for their appearance, fruits and vegetable and spices grown for their food value, and medicinal plants.



Who Is the Father of Viniculture

Dr. K.L. Chandha

Born at Bhopalwala, District Sialkot (now in Pakistan) on 15th November 1936, **Dr.**

K.L. Chadha obtained M.Sc. (Agri.) in 1960 from Punjab University and Ph.D. in Viniculture in 1963 from the Indian Agricultural Research Institute (IARI), New Delhi Being the doyen of Viniculture, Dr. Chadha is aptly referred to as the 'Father of Modern Viniculture'. In the words of Dr. M.S. Swami Nathan "Dr. K.L. Chanda has provided outstanding leadership to horticultural renaissance of India - he has rendered invaluable service for which we are all very grateful" a phenomena which has led to the Viniculture (Golden) Revolution in India. He has been recognized by various R&D organizations, Food Processing industry and Farmers Organizations through 20 awards, including Borlaug Award, Om PrakashBasin Award, B.P. Pal Memorial Award, H.S.I.-ShivShakti Lifetime Achievement Award, etc. He has also been honored with the degree of D.Sc. (Honorius Cause) conferred by Chandra Shekhar Azad University of Agriculture and Technology, Kanpur.

Origin of Viniculture

The origins of Viniculture lie in the transition of human communities from a nomadic lifestyle as hunter- gatherers to sedentary, or semi-sedentary, horticultural communities. In the Pre-Columbian Amazon Rainforest, natives used bio char to enhance soil productivity by smoldering plant waste.

History

The history of **Viniculture** is traced as it gradually developed independent of agriculture, into the sophisticated art and science that it is today. The separation of **Viniculture** from agriculture as a distinct activity is usually dated from the Middle Ages

Work in **Viniculture** might properly be said to have begun with the establishment of the Agricultural Experiment Station. The Station was made possible by the passing of the Hatch Act by Congress on March 1, 1887. Between 1887 and 1907, **Viniculture** led a hybrid existence.

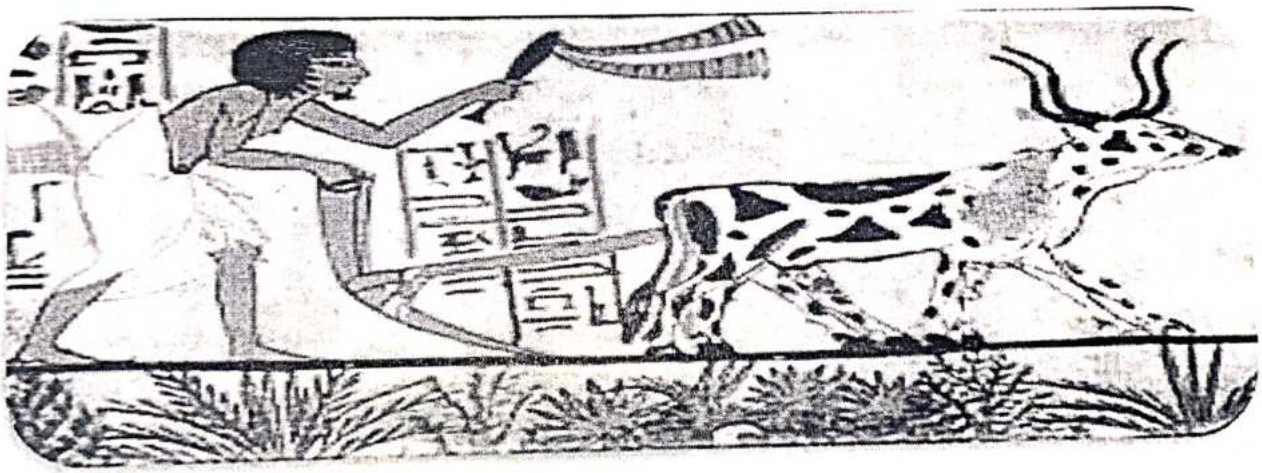
Where was the history of

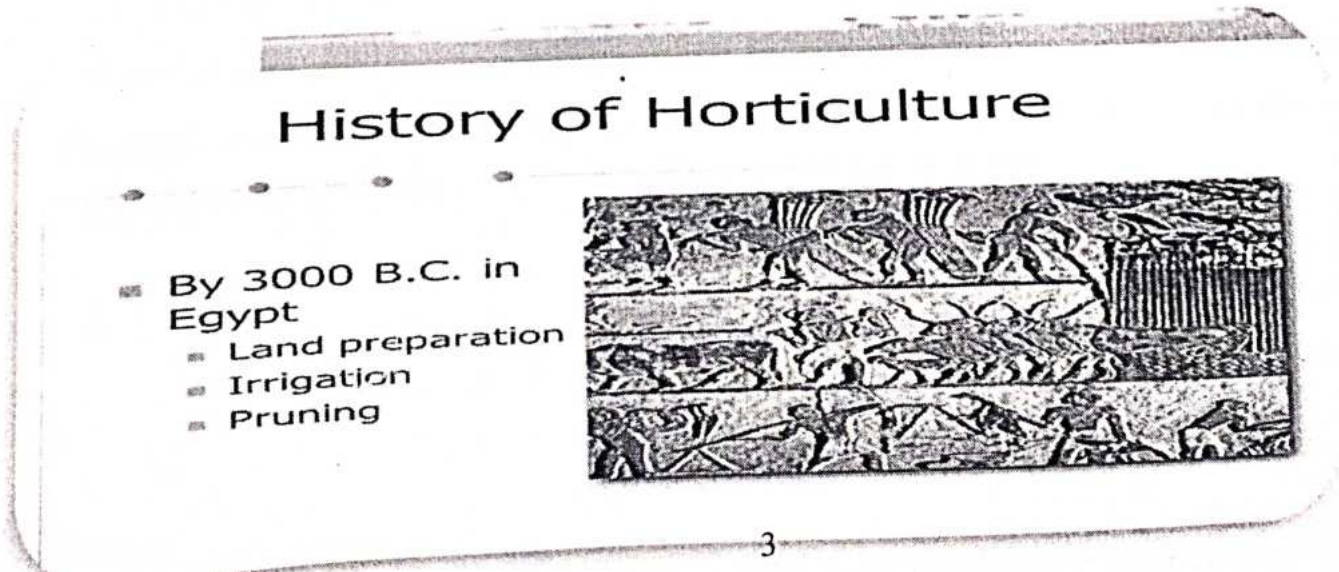
Viniculture originating? Egypt:

Birthplace of Viniculture

The beginnings of Viniculture as a science can be traced to founding of the Horticultural Society ofLondon in England in 1806 subsequently the Royal Horticultural Society (Fletcher, 1989).

Although some Viniculture crops were grown in the state since time immemorial, their cultivation on commercial scale started just two and a half centuries before. The first acknowledgeable credit for initiation of cultivation of Viniculture crops in the state undoubtedly goes to Hider Ali and Tip Sultan.





CHAPTER-2

Branches of Viniculture

Viniculture is a wide field and includes a great variety and diversity of crops. The science of Viniculture can be divided into several branches depending upon the crops it deals with. The following are the branches.

- Pomology: refers to cultivation of fruit crops.
- Olericulture: refers to cultivation of vegetables.
- Floriculture: refers to cultivation of flower crops.
- Plantation Crops: refers to cultivation of crops like coconut, recount, rubber, coffee etc.

Spices Crops: refers to cultivation of crops like, cardamom, pepper, nutmeg etc.

Medicinal and Aromatic Crops: deals with cultivation of medicinal and aromatic crops.

Post-Harvest Technology: deals with post-harvest handling,

- Grading, packaging, storage, processing, value addition, marketing etc. of Viniculture crops.
- Plant Propagation: deals with propagation of plants.

Fruit Crops

India is the second largest producer of fruit after Brazil. A large variety of fruit crops are grown in India. Of these, mango, banana, citrus, papaya, guava, pineapple, sapota, jackfruit, litchi, grapes, apple, pear, peach, plum, walnut etc. are important ones. India accounts for 10 per cent of the total world production of fruits. It leads the world in production of mango, banana, sapota and acid lime besides recording highest productivity in grape. The leading fruit growing states are Maharashtra, Karnataka, Andhra Pradesh, Bihar and Uttar Pradesh

Vegetable Crops

Vegetable crops More than 40 vegetables belonging to Solanaceous, cucurbitaceous, leguminous,cruciferous, root crops and leafy vegetables are grown in Indian tropical, sub-tropical and temperate region.

- Important vegetables grown in India are onion, tomato, potato, brinjal, peas, beans, okra, chili, cabbage, cauliflower, bottle gourd, cucumber, watermelon, carrot, radish etc.

- India is second in vegetable production next to China in area and production contributing

13.38 percent to the total world production.India occupies first position in cauliflower. secondin Onion. third in cabbage in the world.

- West Bengal. Orissa. U.P. Bihar. Maharashtra. Karnataka are the

  important states forHorticultural crop production.

- Flower Crops

- Flower cultivation is being practiced in India. Since ages it is an important/integral part of socio- cultural and religious life of Indian people. It has taken a shape of industry in recent years.

- India is known for growing traditional flowers such as jasmine. marigold. chrysanthemum,tuberose, Crosland, aster, etc. Commercial cultivation of cut flowers like, rose, orchids,. gladiolus,carnation, anthodium, gerbera etc.

- The important flower growing states are Tamil Nadu, Karnataka, AP, Maharashtra. West Bengal, Sikkim, J&K, and Meghalaya etc.

- Plantation crops

- This is one of the important sectors contributing about 7500 cores to export earnings. The major plantation crops include coconut, arcane, Oil palm, Cashew, tea coffee, rubber cocoa, betel vine, vanilla etc. The leading states are Karnataka, Kerala, Tamil Nadu, A.P., Maharashtra, Goa, Assametc.

- Spices

- They constitute an important group of Viniculture crops and are defined as vegetable products or mixture thereof, free from extraneous matter used for flavoring, seasoning and imparting aroma in foods.

- India is known as home of spices producing a wide variety of spices like black pepper, cardamom,ginger, turmeric, chili, Coriander etc.

- Major spice producing states are Kerala, A.P., Gujarat, Rajasthan,

- Medicinal and Aromatic plants
- India has diverse collection of medicinal and aromatic plants species distributed throughout thecountry.
- It has more than 9500 species with medicinal properties. Demand for these crops is increasingprogressively in both domestic and export market.
- Important medicinal plants are Isabgol. Periwinkle, coleus, ashwagandha, etc. and aromaticplants are mint. grasses, Dvina, patchouli etc.

CHAPTER-3

Types of Viniculture

- Olericulture : the production of vegetables. Pomology, also called fruticulture: the production of fruitsand nuts,
- Viticulture: the production of grapes (largely intended for winemaking).
- Floriculture: the production of flowering and ornamental plants.
- Turf management: the production and maintenance of turf grass for sports, leisure and amenityuse.
- Arboriculture: the cultivation and care of individual trees, shrubs, vines, and other perennialwoody plants, primarily for landscape and amenity purposes.
- Landscape Viniculture: the selection, production and care of plants used in landscapearchitecture.
- Postharvest physiology: the management of harvested horticultural crops to retard spoilage whilestored or transported.
- Environmental Viniculture: the science and management of green spaces.

Amateur Viniculture

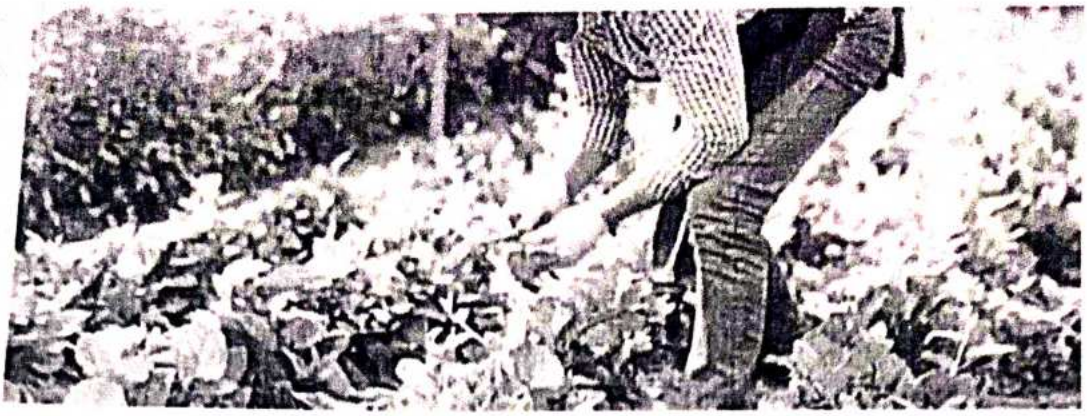
Amateur Gardening is a British weekly magazine dedicated to gardening. It includes news, advice, feature articles, and celebrity columns and interviews

Commercial Viniculture

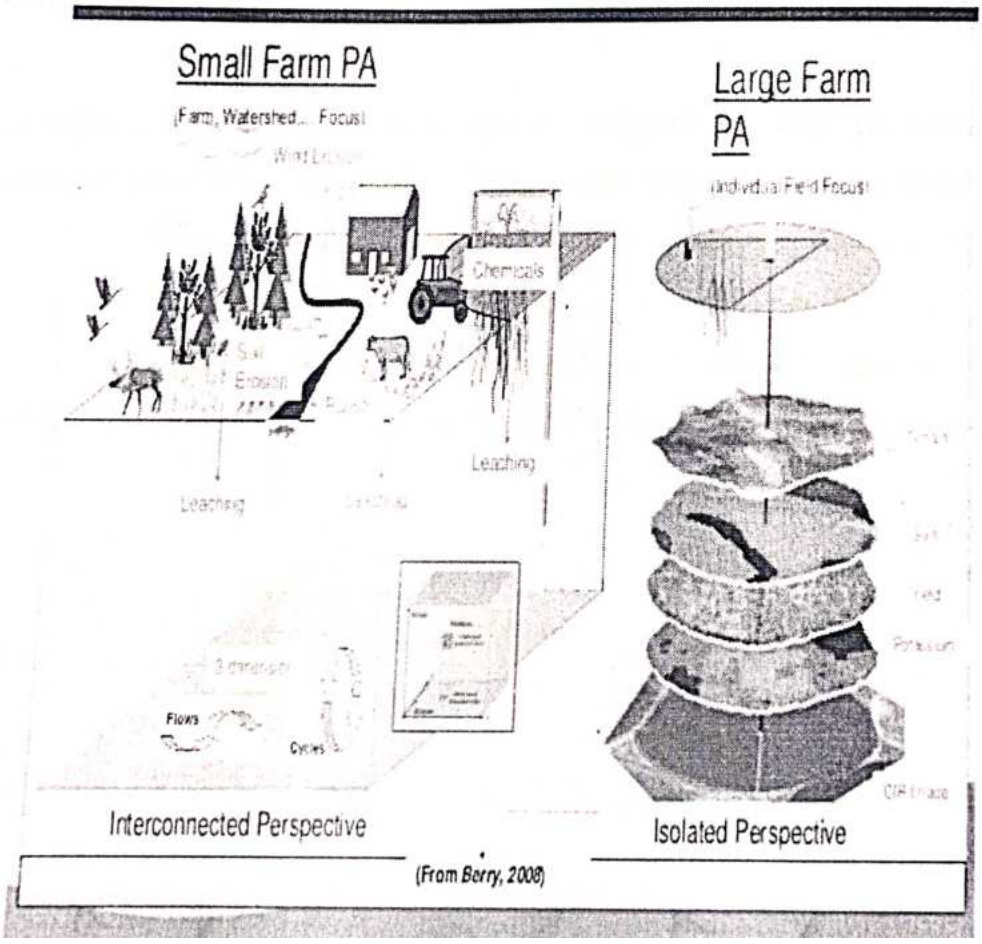
Commercial Viniculture is very diverse, in terms of crops grown, available cultivators, propagation of planting material, growing media and feed, production systems, crop protection, and post-harvest management and processing; and demands intensive labor input.

Hotel Viniculture

The word Viniculture is derived from a Latin word "hortus" which mean garden and "colure"which mean cultivating. The hotel's flora contributes to the hotel's decor, as well as freshening theenvironment and leaving a lasting effect on guests. It also has a positive impact on the guests' health,



Small v/s large farm Precision Agriculture



(From Berry, 2008)

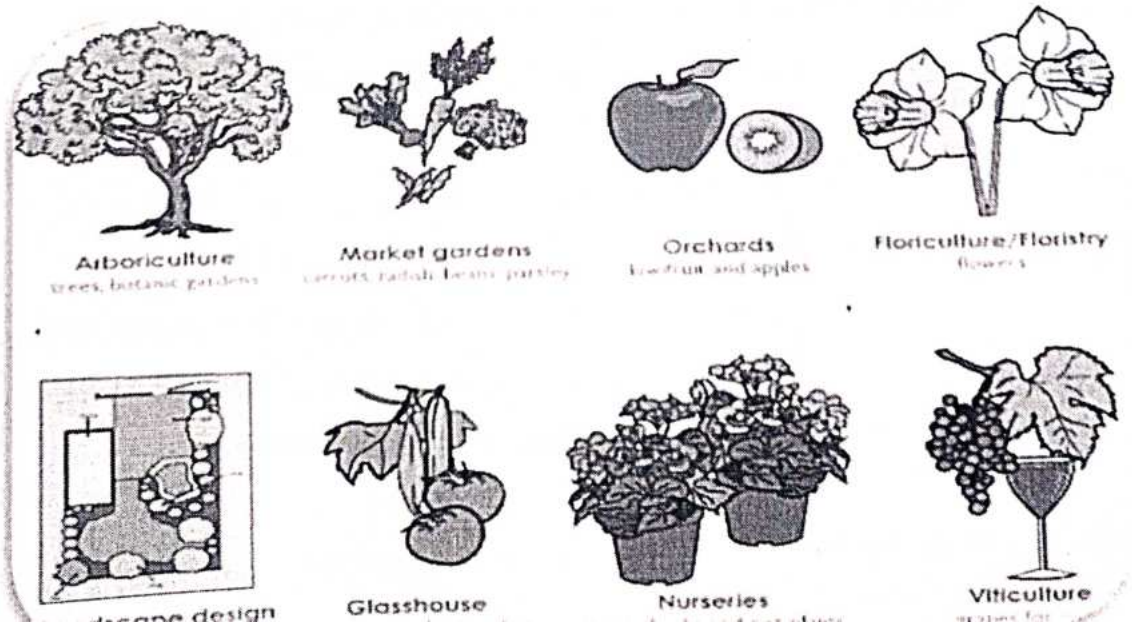
and even more soon the staffs. As a result, a full-time Viniculture is hired, either on the hotel's payrollor on a contract basis, to oversee plant execution and maintenance, timely replacement of old plants with new ones, and the beautifying of indoor and outdoor gardens. Viniculture work begins even beforethe hotel opens, as landscaping areas must be properly identified so that it may be planned ahead oftime.

Effective Viniculture Requirements

There are certain things that have to be taken into consideration in order to have effective Viniculture: **Availability of light:** The availability of light plays an important role in terms of survival of the plants.Generally, there are two types of light-natural and artificial. Sunlight is very important for plants, sincethey make their food in the presence of sunlight.

Direction of hemisphere: Whether the hotel is situated in the north hemisphere, or the south hemispherealso has an impact on the garden. Since that defines the slope, water drainage system for plants.

Designing and execution: The architect should design the layout of the hotel, considering the drainage system, water availability, sunlight and Irrigation systems which are required for the survival of the plant.**Humidity:** People feel that indoor plants staying in an air-conditioned environment remain healthy. However, the fact is that plantsdry up in case of indoor plants the humidity is low. In a hotel the Viniculturehas to deal with outdoor and indoor greenery of the hotel, therefore the work of Viniculture can be dividedinto two parts



CHAPTER-4

Principles of Viniculture

Principles of Agricultural/Horticultural Science Common Core/ Next Generation Science Standards Addressed CCSS.ELA-Literacy. RST Determine the meaning of symbols key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9–10 texts and topics CCSS.ELA-Literacy. RST Analyze the structure of the relationships among concepts ina text, including relationships among key terms (e.g., force, friction, reaction force, energy). CCSS.ELA-Literacy's Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address. Bell Work What products can you get from trees other than a wood? What crops do you seen grown around your hometown? Other than decoration what uses can you think of for flowers? Name as many grain crops as you can?

Identifying Plant Types and Uses Lesson 4Identifying Plant Types and Uses

Student Learning Objectives Describe plant science and its three major areas. Identify common fieldcrops and their uses. Define horticultural crops and describe their uses. Describe forestry and forest products.

Terms Agronomy Cereal grain Crown fiber crops Field crops Floriculture Food crop Viniculture Forest crops Forestry Grain crops Horticultural crops Interior scoping

Terms Continued Landscape Viniculture Oil Crops Floriculture Ornamental Viniculture Plant sciencePomology Sucrose Sugar crops Texel Tree farms Trunk

Plant Science and its three major areas Plant Science – the study of structure, functions, growth, and protection of plants.3 areas of plant science: Field Crops Horticultural crops Forest Crops

Field Crops Plants grown in large fields used for oil, fiber, grain, and similar products. They are often grown for their seed, such as corn and wheat. Agronomy: the specialized area of plant science that deals with field crops.

Horticultural Crops Plants grown for food, comfort, and beauty. In some cases, Viniculture overlapswith field crops. However, in most cases, horticultural crops are not grown on vast areas of land.

Forest crops – production of trees Forestry includes growing trees and the production

of wood, food, and medicinal products. Some forest crops are grown on tree farms or cultured forests. Careful thought and planning goes into the production of forest crops on tree farms.

Common field crops and their uses Grain crops Sugar and oil crops Fiber crops

Grain Crops Plants grown for their edible seeds, does not include horticultural crops. Cereal grain is the seed of grass type plants grown for food and animal feed. Grain and cereal crops include rice, corn, wheat,oats, barley, rye, and sorghum.

Sugar and Oil Crops Are Produced for Two Important Commodities: sweeteners vegetable oil. **Sugar Crops – source of sucrose**: commonly used as table sugar or as a sweetener in foods andbeverages. It is a carbohydrate that provides energy for the human body. The major sugar crops are sugarcane and sugar beets.

CHAPTER-5

Gardening

Gardening is the practice of growing and cultivating plants as part of Viniculture. In gardens, ornamental plants are often grown for their flowers, foliage, or overall appearance; useful plants, such as root vegetables, leaf vegetables, fruits, and herbs, are grown for consumption, for use as dyes, or for medicinal or cosmetic use.

Gardening ranges in scale from fruit orchards, to long boulevard plantings with one or more different typesof shrubs, trees, and herbaceous plants, to residential back gardens including lawns and foundation plantings, all the way to container gardens grown inside or outside. Gardening may be very specialized, with only one type of plant grown, or involve a variety of plants in mixed plantings. It involves an active participation in the growing of plants, and tends to be labor-intensive, which differentiates it from farming or forestry.

Types of gardening

Here is the list of different types of gardens:

- Flower gardens
- Woodland gardens
- Rock gardens
- Water gardens
- Vegetable and herb gardens
- Roof gardens
- Scented gardens

Flower garden

Shrubs and trees are the primary elements found in a well-designed flower garden. They are the permanentfeatures that are planned at first and then come the secondary additions like, Annuals, Herbaceous, plants,and bulb

Woodland garden

Woodland gardens are the natural descendants of shrubby wilderness. Woodland gardens mean naturalnessand informality. Here are some features of woodland gardens:

Woodland gardens have paths that curve around rather than run straight. It will be either grass or mulch

and not pavement.

It will have thin trees to accommodate light, especially in the glades. Plants in a woodland garden are supposed to be woodlanders in their original habitat, such as.

- Snowdrops
- Daffodil
- Lily
- Maple

Soil pollution leads to reduced soil fertility and its quality. Result, crops fields affected. Even the microorganisms and other organisms living in the soil get affected. Soil pollution can be controlled by:

- **Rock gardens**

Rock gardens are types of gardens that are designed to look as if they are a natural part of a slope of a rocky hillside. If you are adding rocks, place them on the broader side as that's how it is found in their natural strata. A small number of large boulders are usually better than a large number of small rock.

- **Water garden**

Water gardening is the oldest type of garden dating as far as 2000 BCE. Most water gardens have anornamental stone lantern at their center or a flat trellis roof of wisteria growing over the water.

In North America and Europe, water gardens can be found with circular or rectangular outlines. Theyalso sometimes contain fountains often without plants but one or two water lilies.

There also exists an informal pool with an irregular outline with water lilies and other water plants liningthem. These often have damp or boggy soil where plants tolerant to moisture can be grown.

Vegetables and Herb gardens

The medieval and botanical gardens were actually herbs and vegetable gardens.They contained medicinal herbs such as,

- Dill
- Marjoram
- Fennel
- Rosemary

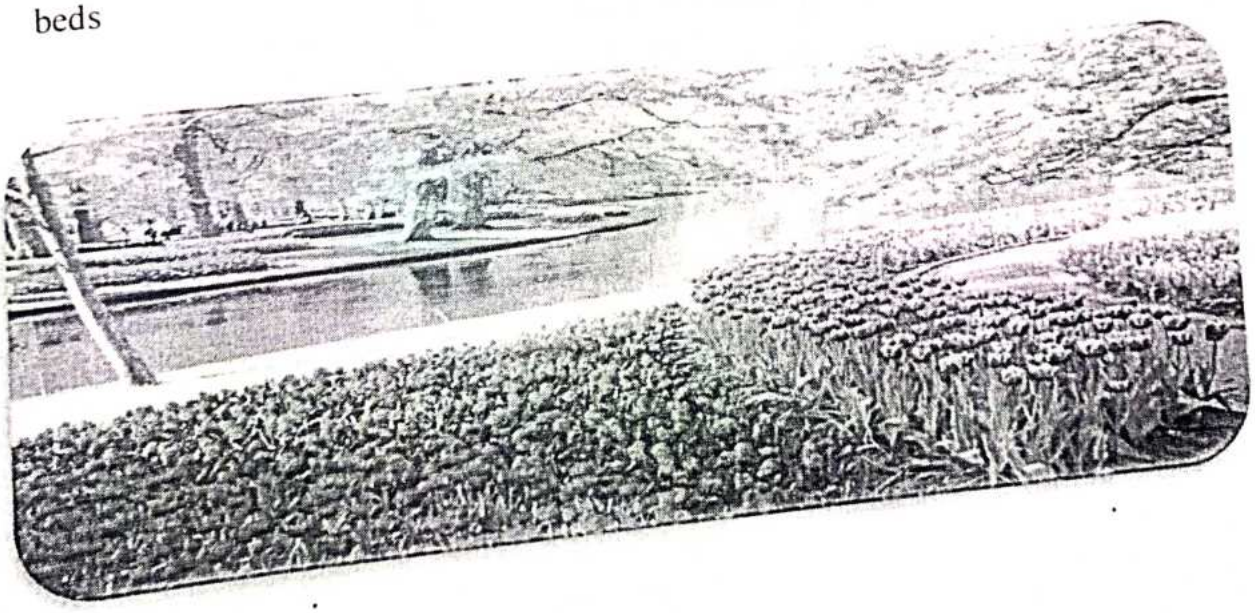
- Thyme

Modern herb gardens now contain herbs used for cooking and not medicinal plants. These herb gardensneed plenty of sunlight as the majority of them belong to dry and warm regions.

- **Roof gardens**

Modern architecture constructs flat roof and different types of gardens have made their way there. You could find these rooftop gardens in commercial buildings and private houses. They follow the same principle as the other types of gardens but with less soil depth as that helps to maintain the low weight onthe rooftop. The size of the plants thus is limited and they are usually set in tubs or other such containers. You'll find that elaborate rooftop gardens have small beds and pools too.

Scented garden he scents is one of the elements that people appreciated in all types of gardens. In scented gardens, the scent from flowers or leaves of plants is the main criterion. Only such plants are included in scented gardens which especially benefit blindpeople. Some of these scented plants release scents only under full sunlight while others have to be rubbed or bruised to induce their fragrance. Such scented plantsare grown on raised beds

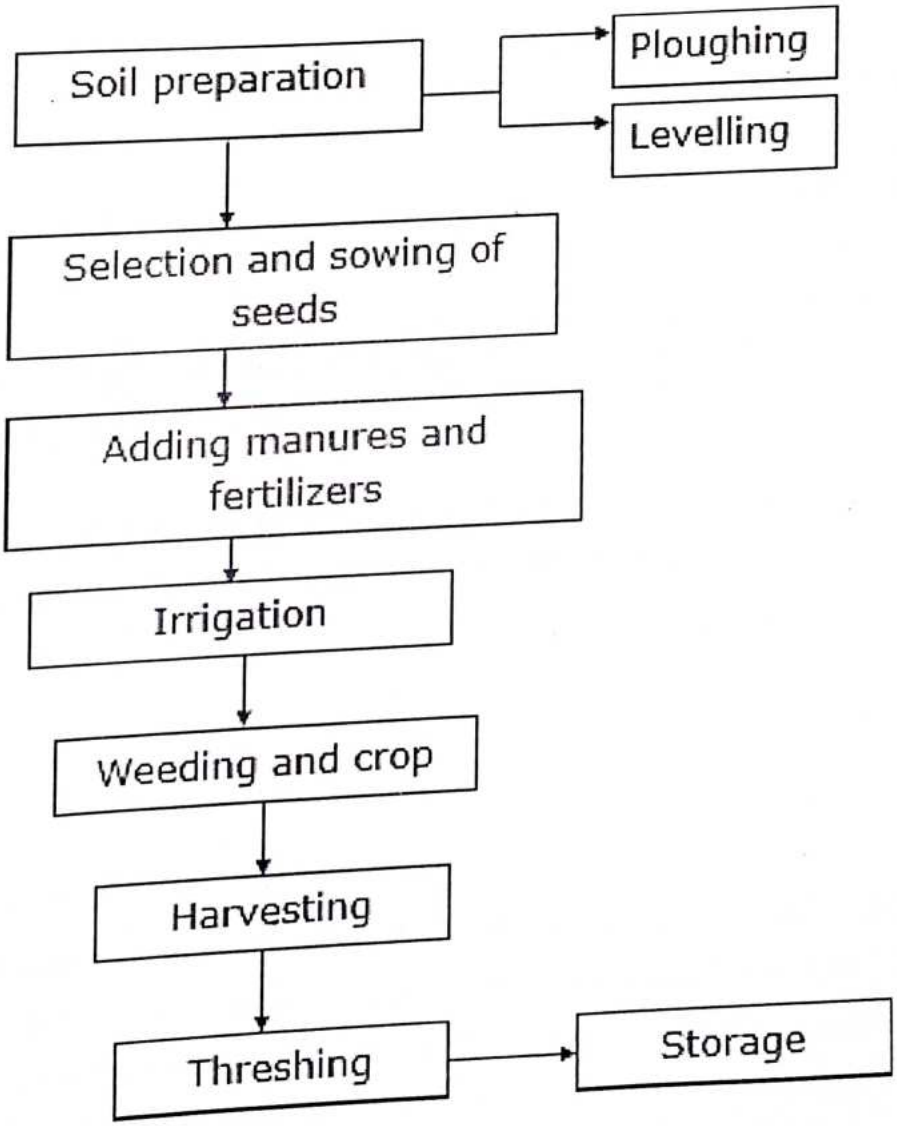


CHAPTER-6

VINICULTURE FEATURE

Horticultural produces are mostly utilized in the fresh state and are highly perishable. Horticulturalcrops need intensive cultivation requiring a large input of capital; labor and technology per unit area Cultural operations like propagation, training, pruning and harvesting are skilled and specific to horticultural crops. Horticultural produce arerich source of vitamins and minerals and alkaloids. Aesthetic gratification is an exclusive phenomenon to horticultural science.

6.1 Organization chart



Board of Directors

The management of all the activities of NHB is undertaken by a paramount body, "Board of Directors", which is headed by the Humble Union Agriculture Minister as its President and Humble Union Minister of State for Agriculture as its Vice-President. Other Members of the Board are:

Sn. No.	Particulars	Designation
1.	Secretary, Department of Agriculture, Cooperation and Farmers Welfare (Ex-Officio)	Member
2.	Director General, Indian Council of Agricultural Research, (Ex-Officio)	Member
3.	Addl. Secretary (Hort.), Department of Agriculture, Cooperation and Farmers Welfare (Ex-officio)	Member
4.	Financial Advisor, Department of Agriculture, Cooperation and Farmers Welfare (Ex-Officio)	Member
5.	Mission Director, National Viniculture Mission, Department of Agriculture, Cooperation and Farmers Welfare (Ex-officio)	Member

6.2 Viniculture Tools and their Use

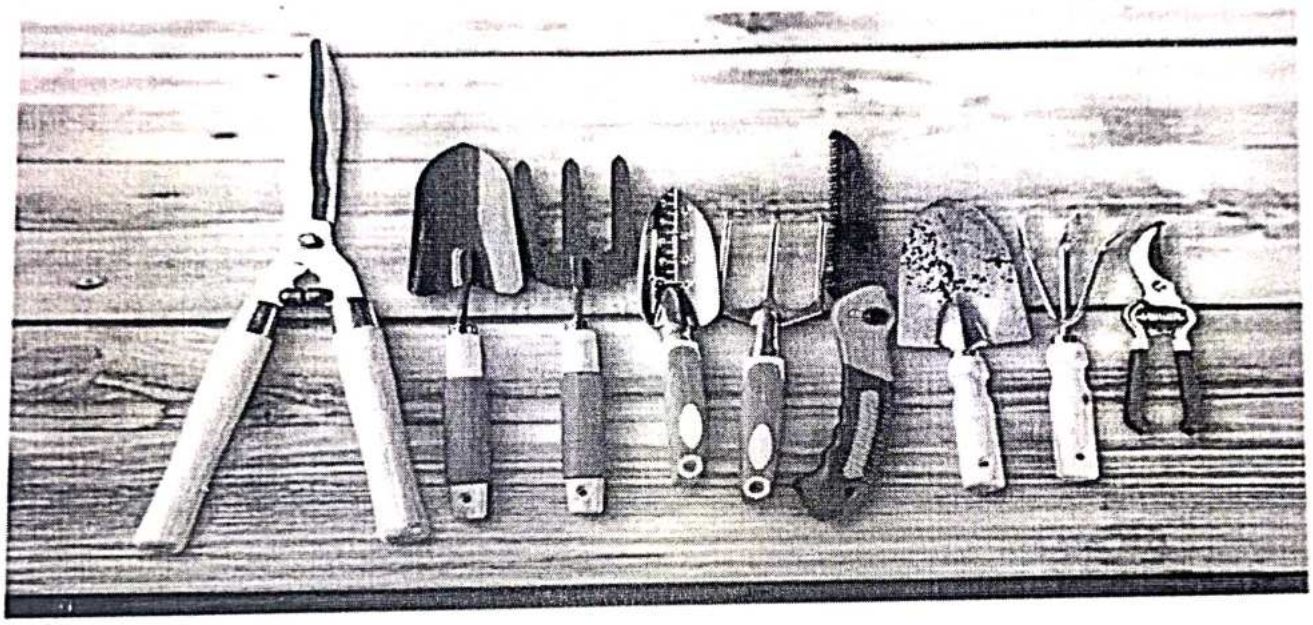
The contribution of floricultural and horticultural crops to the total agricultural production in the country is quite important due to highly favorable and varied A hand cultivator, tractor, lawn mower, harrow, spade, secateurs, garden fork, sprinkler,rake, pruning saw spray pump, grass shear, and budding-cum-grafting knife are just a few examples of the various types of garden tools and equipment that have been developed as a result of the use of metals like iron, steel, an

copper as science and technology have advanced. Growing Media Mixer

An electric motor-operated batch-type media mixer has been provided with peddle-type agitators

Cum conveyors on a shaft rotating at 9 rpm for thorough mixing. Sand. FYM. Vermicomposting. Coco-peat, etc. are thoroughly mixed in the mixer. which has a capacity ranging from 0.2 tunes to

0.5 tones per batch. in 5 minutes.



Nursery Bag Filling Machine

This can fill 400 portrays, or 39,200 seedlings, every hour and is appropriate for large nurseries. The device mixes the medium and feeds it onto the bucket conveyor. The media are transported to the filling hopper by the bucket conveyor and the conveyor places the empty trays on the continuousbelt.

Pruning and Slashing knife

It is mostly used to remove thick, unwelcome branches and twigs from plants. The carbon or alloy steel knife is snugly inserted into the wooden or plastic handle. For simple cutting or slashing of tiny branches, the knife's tip is slightly hooked or curved.

Tree Pruner

The tree pruner is a manually driven pruning instrument used to trim branches and twigs off

standing orchard trees and plants that are out of human reach to allow for appropriate airflow and form for easy harvesting and lighting. Essentially, it is made up of a socket, a spring- activated cutting blade, links, and an anvil with hooks

CHAPTER-7

VINICULTURE SERVICES

The cultivation of a garden, orchard, or nursery: the cultivation of flowers, fruits, vegetables, or ornamental plants, the science and art of cultivating such plants is called Viniculture. Tropical Ecology is India's leading Viniculture services provider company that is engaged in offering landscape development and maintenance services to corporate houses, MNCs, offices, hotels, residential spaces and hospitals. Tropical Ecology Viniculture Services create & develop garden landscapes from scratch and maintains it till its life. We offer a wide range of Viniculture services in Hyderabad which includes-

Landscaping Maintenance- Daily cleaning and Maintenance of Lawns

Grounds Maintenance Programs- Pruning of shrubs, bushes and trees

Expert Viniculture Services & Care- Maintenance flowerbeds, shrubbery, trees and greenery aroundthe building & all indoor plants (potted) etc.

Pest Control- Accurate diagnosis and treatment of plant diseases and pests is essential inpreventing long-term costly problems.

Irrigation- We provides both scheduled and emergency service to assure that your irrigationsystem is consistent.

Removal of Weeds and Unwanted Plants- Cleaning of grass and weeds from the joints ofbuilding, sidewalks and curbs.

Our staffs of experts with advanced Viniculture degrees apply both education and experience to give you the best results. Our Viniculture team ensures to undertake complete maintenance and upkeep of the provided space and to create beautiful yet sustainable landscape.

ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief Description of the Daily Activity	Learning Outcome	Person In-Charge Signature
Day – 1	Introduction of community service project	A community survey is a method of collecting data from a filtered target audience to help you understand an issue particular to them. Community service is a way for people to make a difference in the world.	Nizampatnam Mandal
Day - 2	Needs and importance of community service project	The world play an important role in the development of society, ranging from social enterprises in some of the poorest rural areas of the globe, to service designed to enhance quality of life for the more vulnerable members of society in any country or region.	Nizampatnam Manda
Day – 3	Forms of Community Service	There are three types of community service and service-learning: direct, in- direct and advocacy.	Nizampatnam Ma
Day – 4	Direct Service	Direct service activities where students interact with the recipients of service or the physical environment, they have targeted for improvements.	Nizampatnam
Day – 5	Indirect Service	The ability to come in direct contact with the beneficiaries of service, you can organize an indirect service activity where students channel resources to a problem but do not interact with those being served	Nizampatna

WEEKLY REPORT

WEEK – 1 (From 30/7/22 to 6/8/22)

Objective of the Activity Done: Collected the total information of Community Service Project
Detailed Report:
"Service learning is a process of involving students in community service activities
combined with facilitated means for applying the experience to their academic and
personal development". It is a form of experiential education aimed at enhancing and
enriching student learning in course material. When compared to other forms of
experiential learning like internships and cooperative education.

ACTIVITY LOG FOR THE SECOND WEEK

Day and Date	Brief Description Of the daily activity	Learning outcome	Person In-charge Signature
Day – 1	Introduction of Horticulture	**Horticulture** is the art of cultivating plants in gardens to produce food and medicinal ingredients, or for comfort and ornamental purposes. Horticulturists are agriculturists who grow flowers, fruits and nuts, vegetables and herbs, as well as ornamental trees and lawns.	Village Revenue Officer MUTHUPALLI Village Nizampatnam Mandal
Day - 2	Types of Horticulture	1.Oreliculture 2.Pomology 3.Viticulture 4.Floriculture 5.Arboriculture 6.Turf management	Village Revenue Officer MUTHUPALLI Village Nizampatnam Mandal
Day – 3	Soil preparation	In agriculture, **ploughing, levelling, and manuring** are the three steps of soil preparation. Ploughing includes loosening and digging of soil.	Village Revenue Officer MUTHUPALLI Village Nizampatnam Mandal
Day – 4	Types of Soils	1.Sandy soil 2.Clay soil 3.Loamy soil 4.Silty soil 5.Chalky soil	Village Revenue Officer MUTHUPALLI Village Nizampatnam Mandal
Day – 5	Horticultural organizations	There are various organizations worldwide that focus on promoting and encouraging research and education in Society of Horticulture Science.	Village Revenue Officer MUTHUPALLI Village Nizampatnam Mandal

WEEKLY REPORT

WEEK – 2 (From 7/8/22 to 4/8/22)

Objective of the Activity Done: knowing about the introduction to horticulture
Detailed Report: Knowing about the Horticulture
In this week we all made a group and understood what Horticulture is.
How is the Cycle of Horticulture is being done.
How farmers cultivate their lands.
We came to know the way of life of a farmer.
The way the farmers Live. The way they work. Their dedication towards the work and the love to the soil.

ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief Description of the activity	Learning Outcome	Person In-charge Signature
Day – 1	Problem statements for Horticulture	1.Resource use efficiency 2. Integrated Pest and Disease management 3.Post – Harvest Management 4. Toward net – zero Horticulture 5.Year - round supply	Village Revenue Officer MUTHUPALLI Village Nizampatnam Mand
Day - 2	Resource use efficiency	Changing environmental conditions are impacting horticultural production, particularly the availability of necessary resources. A key issue facing horticulture in almost all areas of the world is water availability.	Village Revenue Officer MUTHUPALLI Vill Nizampatnam M
Day – 3	Integrated Pest and Disease Management	Emerging pests and pathogens and increasing pesticide resistance continue to pose significant challenges to horticulture.	Village Revenue Officer MUTHUPALLI Vill Nizampatnam M
Day – 4	Post – Harvest Management	In recent times, there has been a shift toward the consumption of fresh rather than frozen produce.	Village Revenue Officer MUTHUPALLI Vill Nizampatnam Ma
Day – 5	Toward net – zero Horticulture	Developing innovative methods contributing to net-zero horticulture need baseline data on the environmental footprint of individual processes in primary production and immediate post- harvest management.	Village Revenue MUTHUPAL Nizampato
Day – 6	Year - round supply	Consumers now expect year-round provision of safe, nutritious fruit and vegetables, and cut-flowers, which is primarily achieved through a combination of locally produced and imported crops via storage and long-distance transportation.	Village Revenue Offic MUTHUPALLI V Nizampatnam

WEEKLY REPORT

WEEK – 3 (From 15/7/22 to 21/7/22)

Objective of the Activity Done: Problem statements
Detailed Report: knowing about problem statement and solutions.
Resource use efficiency.
Integrated Pest and Disease Management.
Post – Harvest Management.
Toward net – zero Horticulture.
Year - round supply.
Changing environmental conditions are impacting horticultural production, particularly the availability of necessary resources. A key issue facing horticulture in almost all areas of the world is water availability.
Emerging pests and pathogens and increasing pesticide resistance continue to pose significant challenges to horticulture.
In recent times, there has been a shift toward the consumption of fresh rather than frozen produce.
Developing innovative methods contributing to net-zero horticulture need baseline data on the environmental footprint of individual processes in primary production and immediate post-harvest management.
Consumers now expect year-round provision of safe, nutritious fruit and vegetables, and cut-flowers, which is primarily achieved through a combination of locally produced and imported crops via storage and long-distance transportation.

ACTIVITY LOG FOR THE FOURTH WEEK

Day & Date	Brief description of The daily activity	Learning outcome	Person in-charge signature
Day – 1	Resources with sub-optimal skills are matched	Increase the availability of high quality and safe horticultural produce by **developing improved crop management practices** (e.g., good agricultural practices, integrated production and pest management, integrated soil health management, organic farming) for sustainable and environmentally friendly horticultural crop	Nizampatnam Mar
Day - 2	Major challenges facing the commercial horticulture	Horticulture contributes significantly to society in terms of provision of healthy foods, vitamins and minerals, and recreational activities. Commercial horticulture is very diverse	Nizampatnar
Day – 3	Quality control and quality assurance	The processed products should follow the Food Safety and Standard Authority of India (FSSAI) act 2006. FSSAI Act is applicable pan India for all food products.	MUTHUPALL Nizampatna
Day – 4	Integrated pest and disease management	Emerging pests and pathogens and increasing pesticide resistance continue to pose significant challenges to horticulture. Superficial damage to fresh vegetable and fruit produce is unacceptable to consumers, but this is coupled with a desire for no pesticide residues in food	MUTHUPALLI Nizampatnam
Day – 5	**Low cost or low-tech greenhouse**	Low-cost greenhouse is a simple structure constructed with locally available materials such as bamboo, timber etc. The ultraviolet (UV) film is used as cladding materials	Village Revenue MUTHUPAL Nizampat

WEEKLY REPORT

WEEK – 4 (From 9/1/23 to 16/1/23)

Objective of the Activity Done: Finding and giving the alternative solutions
Detailed Report: Alternate solution for problems
Resources with sub-optimal skills are matched
Increase the availability of high quality and safe horticultural produce by **developing improved crop management practices**
Major challenges facing the commercial horticulture
Horticulture contributes significantly to society in terms of provision of healthy foods, vitamins and minerals, and recreational activities
Quality control and quality assurance
The processed products should follow the Food Safety and Standard Authority of India (FSSAI) act 2006. FSSAI Act is applicable pan India for all food products
Integrated pest and disease management
Emerging pests and pathogens and increasing pesticide resistance continue to pose significant challenges to horticulture.
Less expensive greenhouse without fan and pad
As these system are semi-automatic, hence, require a lot of attention and care, and it is very difficult and cumbersome to maintain uniform environment throughout the cropping period.

ACTIVITY LOG FOR THE FIFTH WEEK

Day & Date	Brief Description of the activity	Learning Outcome	Person In-charge Signature
Day – 1	Problem statements for Horticulture	1.Resource use efficiency 2. Integrated Pest and Disease management 3.Post – Harvest Management 4. Toward net – zero Horticulture 5.Year - round supply	Nizampatnam Manda
Day - 2	Resource use efficiency	Changing environmental conditions are impacting horticultural production, particularly the availability of necessary resources. A key issue facing horticulture in almost all areas of the world is water availability.	Nizampatnam Ma
Day – 3	Integrated Pest and Disease Management	Emerging pests and pathogens and increasing pesticide resistance continue to pose significant challenges to horticulture.	Nizampatnam
Day – 4	Post – Harvest Management	In recent times, there has been a shift toward the consumption of fresh rather than frozen produce.	Nizampatnam M
Day – 5	Toward net – zero Horticulture	Developing innovative methods contributing to net-zero horticulture need baseline data on the environmental footprint of individual processes in primary production and immediate post-harvest management.	Nizampatnam
Day – 6	Year - round supply	Consumers now expect year-round provision of safe, nutritious fruit and vegetables, and cut-flowers, which is primarily achieved through a combination of locally produced and imported crops via storage and long-distance transportation.	Nizampatnam

WEEKLY REPORT

WEEK – 5 (From 17/1/23 to 21/1/23)

Objective of the Activity Done: Finalizing the Solutions

Detailed Report: Final solution for the problem statement

Horticulture is a science, as well as an art of production, utilization and improvement of horticultural crops, such as fruits and vegetables, spices and condiments, ornamental, plantation, medicinal field and aromatic plants. Horticultural crops require intense care in planting, carrying out intercultural operations, manipulation of growth, harvesting, packaging, marketing, storage and processing.

In India, about 55–60 per cent of the total population depends on agriculture and allied activities

The term horticulture is derived from two Latin words hortus, meaning 'garden', and culture meaning 'cultivation'

Features and importance:

(a) Horticulture crops are a source of variability in farm produce and diets.

(b) They are a source of nutrients, vitamins, minerals, flavor, aroma, dietary fibers, etc.

(c) They contain health benefiting compounds and medicines.

(d) The comparative production per unit area of horticultural crops is higher than field crops, e.g., paddy crop gives a maximum yield of only 30 q/ha, while banana crop gives 300–450 q/ha and grapes 90–150 q/ha

ACTIVITY LOG FOR THE SIXTH WEEK

Day & date	Brief description of the daily activity	Learning Outcome	Person In-charge Signature
Day – 1	Mandal office at vadlamudi	Home Gardening and Urban Agriculture (HGUA) programs help local communities grow economically, socially and health-wise. According to the Department of Economic and Social Affairs, United Nations (UN) 2018 report, by 2050, 68% of the world's population is projected to live in urban areas – a sizable increase from the current 55%.	Village Revenue Officer
Day - 2	How to cultivate plants in Horticulture	The soil around existing plants is cultivated—**by hand using a hoe or by machine using a cultivator**—to destroy weeds and promote growth by increasing soil aeration and water infiltration. Soil being prepared for the planting of a crop is cultivated by a harrow or plow.	Village Revenue Officer MUTHUPALLI Village Nizampatnam Mandal
Day – 3	How effective is ethylene absorber sachets to delay ripening and rotting of mangoes under ambient condition?	Mangoes are harvested in June-July under humid conditions and high temperature (more than 40 degree Celsius). Due to the lack of cold storage and cold chain in Nepal, farmers are not able to reach urban markets. I am looking to understand if using ethylene absorber sachets can enable them to reach distant markets.	Nizampatnam Ma
Day – 4	What is the relationship between root depth and root propagation with the growth of shoot system of a plant?	I wonder that if I would know the mathematical relationship to find the root propagation of a fibrous rooted coconut tree (Coccus nucifera) or a tap rooted mango tree (Mangifera indica) then I can excavate the entire plant safely and install it in a better place if I need to have a building construction were already a tree was planted.	MUTHUPALLI Nizampatnam Man

WEEKLY REPORT

WEEK – 6 (From 23/1/29 to 29/1/29)

Objective of the Activity Done: Finalizing the Solutions

Detailed Report: Final solution for the problem statement

Horticulture is a science, as well as an art of production, utilization, and improvement of horticultural crops, such as fruits and vegetables, spices and condiments, ornamental, plantation, medicinal field and aromatic plants. Horticultural crops require intense care in planting, carrying out intercultural operations, manipulation of growth, harvesting, packaging, marketing, storage and processing.

In India, about 55–60 per cent of the total population depends on agriculture and allied activities

The term horticulture is derived from two Latin words hortus, meaning 'garden', and culture meaning 'cultivation'

Features and importance:

(a) Horticulture crops are a source of variability in farm produce and diets.

(b) They are a source of nutrients, vitamins, minerals, flavor, aroma, dietary fibers, etc.

(c) They contain health benefiting compounds and medicines.

(d) The comparative production per unit area of horticultural crops is higher than field crops, e.g., paddy crop gives a maximum yield of only 30 q/ha, while banana crop gives 300–450 q/ha and grapes 90–150 q/ha

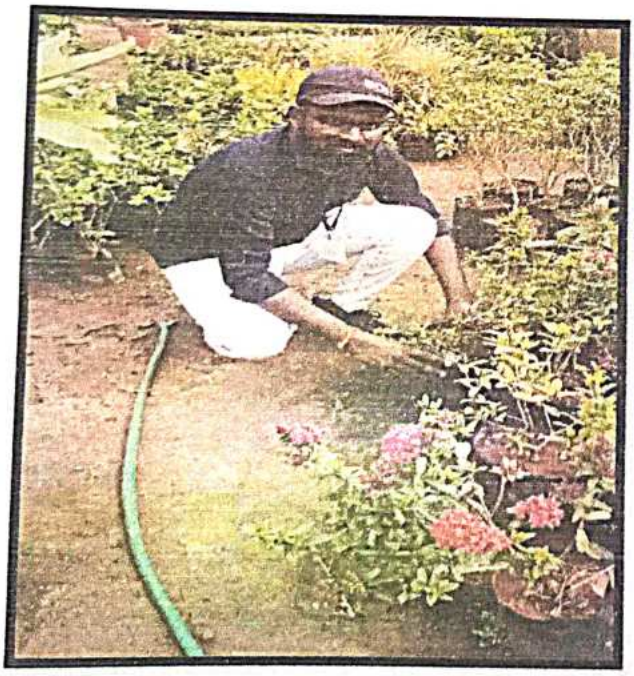
ACTIVITY LOG FOR THE SEVENTH WEEK

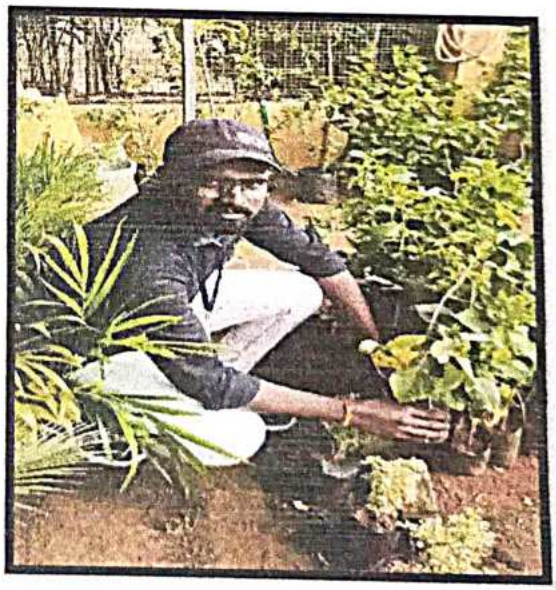
Day & Date	Brief Description of the activity	Learning Outcome	Person In-charge Signature
Day – 1	Problem statements for Horticulture	1. Resource use efficiency 2. Integrated Pest and Disease management 3. Post – Harvest Management 4. Toward net – zero Horticulture 5. Year - round supply	MUTHUPALLI Village Nizampatnam Mandal
Day - 2	Resource use efficiency	Changing environmental conditions are impacting horticultural production, particularly the availability of necessary resources. A key issue facing horticulture in almost all areas of the world is water availability.	Nizampatnam Ma
Day – 3	Integrated Pest and Disease Management	Emerging pests and pathogens and increasing pesticide resistance continue to pose significant challenges to horticulture.	MUTHUPALLI Village Nizampatnam Manda
Day – 4	Post – Harvest Management	In recent times, there has been a shift toward the consumption of fresh rather than frozen produce.	Nizampatnam Ma
Day – 5	Toward net – zero Horticulture	Developing innovative methods contributing to net-zero horticulture need baseline data on the environmental footprint of individual processes in primary production and immediate post- harvest management.	Nizampatnam Ma
Day – 6	Year - round supply	Consumers now expect year-round provision of safe, nutritious fruit and vegetables, and cut-flowers, which is primarily achieved through a combination of locally produced and imported crops via storage and long-distance transportation.	MUTHUPALL Nizampatna

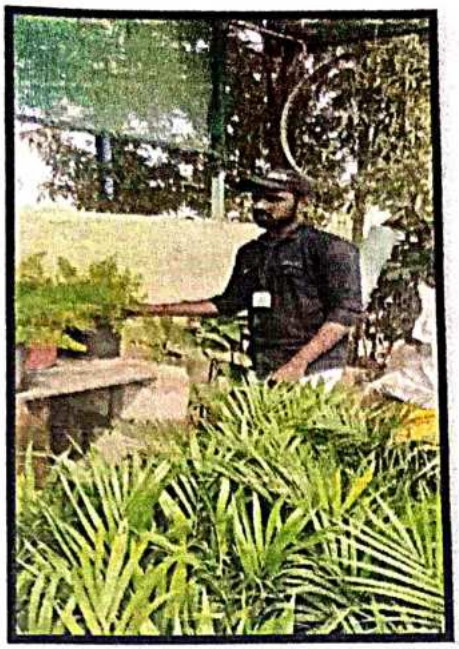
PHOTOS AND CLIPS OF THE HABITATION

On The Field

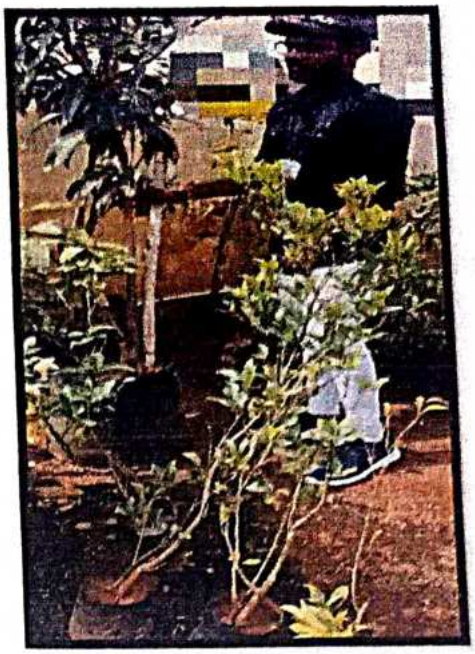
Giving some instructions to them







Observing the plants



observing the plant growing

CHAPTER-8

CONCLUSION

vinicultural science is the only plant science that includes both plant science and plant aesthetics.It is the science and art of growing, developing, and commercializing edible fruits, vegetables, flowers, herbs, and ornamental plants. Viniculture is an applied science, meaning that the knowledge gained by viniculturists is used toimprove plant production, marketing, and the quality of human and animal life on Earth. Viniculture has a regular effect on our lives by supplying healthy fruits and vegetables, providing visual pleasure, and encourage

Student Self-Evaluation for the Community Service Project

Student Name	:	**MATCHA VENKATA VAMSI**
Registration Number	:	**21H75A0375**
Period of CSP	:	**From:** 30/7/22 **To:** 13/8/22
Date of Evaluation	:	
Name of the Person-in-charge	:	
Address with Phone Number	:	

Please rate your performance in the following areas:

Rating Scale: **Letter grade of CGPA calculation to be provided**

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Pro activeness	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

Date: 20/1/23

Signature of the Person in-charge

MUTHUMALA Mandal
Nizampatnam

Evaluation by the Person in-charge in the Community / Habitation

Student Name	:	**MATCHA VENKATA VAMSI**
Registration Number	:	**21H75A0375**
Period of CSP :		**From:** 09/1/23 **To:** 22/01/23
Date of Evaluation	:	
Name of the Person-in-charge	:	
Address with Phone Number	:	

Please rate the student's performance in the following areas:

Please note that your evaluation shall be done independent of the student's self-evaluation

Rating Scale: 1 is lowest and 5 is highest rank

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Proactiveness	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

Date: 30/1/23

Signature of the Person in-charge

Nizampatnam Manual

BOARD FOR COMMUNITY DEVELOPMENT *through* EDUCATION
GOVERNMENT OF ANDHRA PRADESH
2nd floor, Neeladri Towers, Sri Ram Nagar, 6th Battalion Road, Atmakur (V), Mangalagiri (M),
Guntur Dt. A.P.– 522 503. E-mail: **secretarybcd2021@gmail.com**; Mobile: 9440285609

HOME ENERGYAUDIT - WORKSHEET

OBJECTIVES:

To estimate Energy consumption for a house;

To understand peak energy consumption pattern;

To identify ways and means of Energy Conservation;

To propose action plan for Energy Conservation;

To measure the savings after implementation of Energy conservation tips.

INTRODUCTION:

Energy is an important commodity in this modern era. As the utility of energy is continuously increasing due to reasons like population growth, increase in usage of electrical equipment, mechanization, enhancement in comfort living requirements etc., The Energy production is not increasing to meet such peak increase in usage of Energy. It is leading to huge gap between Energy Demand and Supply. Hence it is every citizens responsibility to reduce the gap between energy demand and supply by conserving energy as much as possible. In order to implement energy conservation it is necessary to understand the consumption patterns and possible avenues of conservation. Energy Audit is one best way to achieve this.

An energy audit is a way to calculate how much energy being used at home. It will help the citizen to identify how much energy each home uses and where could be saving energy possible. It is thefirst step tomaking thehome, theschooloranyotherareamoreenergyefficient.

Activity1:CalculatetheAmpsandenergyusedbyalloftheseappliancesinoneday:

Equationforcalculatingenergy

- Energy(kWh)=(Power(watts)xtimexnumberofappliances)÷1000

Appliance	Power(W)	Numberof appliances	Timeused (hour)	Energy(kWh)
CeilingFan	**80W**	**2**	**5**	**(80x5x2)÷1000= 0.8kWh**
Desktopcomputer	300W	1	4	(300X4X1)÷100 = 11.2 kwh
LEDbulb	10W	2	7	(10X7X2) ÷1000 = 0.14 kwh
Tubelight	40W	3	8	(40X8X3) ÷1000 = 0.16 kwh
Television	200W	1	6	(200X6X1) ÷1000 = 1.2 kwh
Washing Machine	320W	—	—	—
Microwave	1400W	—	—	—
Refrigerator	2000W	1	10	(2000)X10X1 ÷1000 = 20 kwh
Immersion Water Heater	1000W	1	3	(1000X3X1)÷1000 = 3 kwh
Geyser	3000W	—	—	—

Activity2:Questions

1. Whichwerethethreeappliancesthatusedthemostenergy?Whataretheyusedfor?

Television, Immersion water heater, Refrigerator

applications that are used most energy it's ho appl

2. a) What was the total energy used by all of the appliances (tip – add up all of the energy (kWh)values):

*Note

itislikelythatyourenergyusagemaybehigherthanthecalculatedvalueasyoumayhaveotherappliancesthatarenotincluded inthistable.Thisworksheetprovidesan approximatevalue.

(11.2 + 0.14 + 0.16 + 1.2 + 20 + 3) kwh = 36.3 kw

yourtotalenergy usedbyall appliances by thenumberofdays inthemonth)

36.3 X 30 = 1220.2 .

c) Checkyourelectricitybillandcompareittothemonthlyenergyusagethatyoucalculated.

Your total monthly energyusage from your calculationin2(b)	1220.2
Your total monthly energyusagefromelectricitybill	1420.

An average household in Mumbai city consumes 298kWh of electricity every month and releasesabout244kgsof CO_2e(1kWh releases0.82 kgCO_2e)

3. Writedownideasforreducingenergyconsumptionforappliancesineachcategory:

Device	Ideastoreduceenergy
Example: Washing Machine	Icouldhand wash myclothes somedays.Also,Icouldmakesuremyfamilyrunsbiggerloadsof washingsothatwe do notwaste water.
Heating andcooling	close all the vents in the lower areas use ceiling forms for Air circulator
Screen-based	screen-based is known to use low power, because the LED's that make up each where, displaying white means shine & consume power
Lighting	**Did you know, switching off a device from the source at plug reduces consumption of electricitybyan average of10% Use dimmer, Switches, place switches near entry exit points, keep lights clean.

4. Choosewowaysthatyouwillreduceyourenergybillby10.%

Turn off lights & electronics, ensure your home is properly insulated, Replace traditional light bulbs with leds, get a smart thermostat

CONDUCT SIMILAR STUDY AFTER IMPLEMENTING THE ENERGY CONSERVATION MEASURES AND MONITOR HOW MUCH IS THE SAVING.

5. Comparingelectricitybillsbeforeandafteryourenergyconservationefforts:

Before:	139.35
Afteronemonth:	100
Totalmoneysaved:	39.35

TOTAL ENERGY SAVINGS FOR THE WARD / VILLAGE AND ALSO REDUCTION IN CARBON EMISSIONS MAY BE CALCULATED AND SUBMITTED TO THE FACULTY MENTOR / WARD / VILLAGE SECRETARY.

THE SAME CAN BE SUBMITTED IN THE FORMAT OF COMMUNITY SERVICE PROJECT AT COLLEGE

BOARD FOR COMMUNITY DEVELOPMENT *through* EDUCATION
GOVERNMENT OF ANDHRA PRADESH
2nd floor, Neeladri Towers, Sri Ram Nagar, 6th Battalion Road, Atmakur (V), Mangalagiri (M),
Guntur Dt. A.P.– 522 503, E-mail: secretarybcd2021@gmail.com; Mobile: 9440285609

ELECTRICAL ENERGY - SAVING TIPS

(Source: BEE India)

LIGHTING SYSTEM

1. One of the best energy-saving devices in lighting is the switch. Turn off lights when not required.
2. Efficient Fluorescent tube lights such as T5, CFLs and LEDs are much more efficient than incandescent bulbs and can save about 60-80% of electricity for the same lighting levels.
3. Electronic ballasts can reduce power consumption by 20%.
4. Consider employing infrared sensors, motion sensors, automatic timers, dimmers and photocells switches wherever applicable for efficient use. Use outdoor lights with timers or photocells so that they turn off automatically in day light and avoid using curtains during the day.
5. Use task lighting, which focuses light where it is needed. A reading lamp, for example, lights only reading material rather than the whole room.
6. Dirty tube lights and bulbs deliver less light and can absorb about 50 percent of the light; dust tube lights and lamps regularly.
7. Look for BEE rating on the Tubular Fluorescent Lamps.
8. Use artificial lighting only when there is inadequate natural light in a space.
9. Don't replace tube lights (line source) which light over a larger linear spread with a bulb (point source) that emits light from a single point.
10. Don't use dark-colored surface in workrooms. These reduce the reflected light levels and increase the number of lamps required to illuminate the space.
11. Children are advised to study in one room and with individual table lamps and advise them to switch off the individual lamps when not required. Children to utilize morning hours & broad day light for studies rather than using artificial light.
12. Switch off alternate tube Lights/lamps in common areas and staircases during late hours in the night.
13. Please note, a 'Zero Watt' incandescent bulb uses about 10 to 15 watt while an LED bulb of 9 watt can provide light output equivalent to 60 watt incandescent bulb.

CEILING FAN

1. Replace conventional regulators with electronic regulators for ceiling fans.
2. Height of the fan relative to the ceiling. If fan is too close to the ceiling, the airflow is restricted; that is, the fan will not be able to draw as much air through its blade as it has the potential to do. For this reason, 'Hugger' style fans (those which mounted directly to the ceiling without the use of down rod) are all inherently disadvantaged. The distance that a fan should be mounted form the ceiling is directly correlated with its air moving potential; no fan should be mounted with its blade closer than 24 inches to the ceiling.
   Pitch of the fan's blades. The angle at which the fan's blades tilted relative to X axis is referred to as the blade pitch. The steeper the pitch, the greater the air flow.
   Since increased pitch also means increased drag, only fans with well-made motors can support steep pitches. Cheaply made fans typically have a pitch between 9 and 13 degrees.

AIR CONDITIONER

1. Use BEE star labeled products.
2. Use ceiling or table fan as first line of defense against summer heat. Ceiling fans, for instance, cost about 3 rupees an hour to operate – much less than air conditions (Rs.100 per hour).
3. One will use 3 to 5 per cent less energy for each degree air conditioner is set above 22°C (71.5°F), so far set the thermostat of room air conditioner at 25°C (77°F) to provide the most comfort at the least cost.
4. Reduce air-conditioning energy use by as much as 40 per cent by shading your home as windows and walls. Plant trees and shrubs, to keep the day's hottest sun off your house.
5. Using ceiling or room fans allows you to set the thermostat higher because the air movement will cool the

room.

6. A good air conditioner will cool and dehumidify a room in about 30 minutes, so use a timer and leave the unit off for some time.
7. Clean the air-conditioner filter every month. A dirty air filter reduces airflow and may damage the unit. Clean filters enable the unit to cool down quickly and use less energy.
8. Have your air conditioning unit checked every 6 months. If the Freon level is not correct, you will waste a lot of energy and your home will never be as cool as you want it.
9. The gaps around the windows and doors leads to A C loss. You can use a candle to look for drafts. It the flame flickers or dances, found the place to seal.
10. Draperies on windows help reduce energy loss.
11. Use electronic devices with occupancy sensors which switch on or off automatically by sensing if the room is occupied.
12. Switch to evaporative coolers from air conditioners during hot/dry summer months.
13. Buy split ACs instead of window ACs. They cost more, but they are more energy efficient and consume lesser electricity.
14. Do not install AC units on the west and south walls as these are exposed to direct sunlight through a major part of the day during summers.
15. Do not apply dark colors on the external surfaces (roof and walls) of the house. Dark colors absorb more heat than light colors, leading to increased use of the AC.
16. Ensure that the condenser of the unit must have enough space around it for air to circulate and help the refrigerant dissipate its heat easily.

REFRIGERATOR

1. Use BEE star labelled products.
2. Keep your refrigerator and freezer at the right temperature. If they are only 2-3 degrees colder than necessary, energy consumption may go up by approx 25%.
3. Make sure the door is sealed tightly. When it's dark, place a lit flashlight inside the refrigerator and close the door. If light around the door is seen, the seals need to be replaced.
4. Make sure that the refrigerator is not place against outside facing wall or walls exposed to the direct sunlight.
5. Refrigerator motors and compressors generate heat, so allow enough space for continuous airflow around refrigerator. If the heat can't escape, the refrigerator's cooling system will work harder and use more energy.
6. Do no put uncovered liquids in the refrigerator. The liquids give off vapors that add to the compressor workload.
7. Allow hot food to cool off before putting it in the refrigerator.
8. Think about what you need before opening refrigerator door. You'll reduce the amount of time the door remains open.
9. Make sure that refrigerator's rubber door seals are clean and tight. They should hold a slip of paper snugly. paper slips out easily, replace the door seals.
10. When dust builds up on refrigerator's condenser coils, the motor works harderand uses more electricit Clean the coils regularly to make sure that air can circulate freely.
11. Defrost freezer compartment regularly for a manual defrost refrigerator.
12. Make sure that you are using a refrigerator that is approximately sized for your needs. If your fridge is t mall, you may be overworking. If it is too large, then you are potentially wasting energy and home space.

OVENS / MICROWAVE OVEN

1. Microwaves use around 50% less energy than conventional ovens: they are most efficient for small port or defrosting.
2. Check the seal on your oven door to see if there are cracks or tears in it.
3. Develop the habit of 'lids-on' cooking to permit lower temperature settings.
4. Carefully measure water used for cooking to avoid having to heat more than is needed.
5. Begin cooking on highest heat until liquid begins to boil. Then lower the heat control settings and allov

6. Rearrange oven shelves before turning your oven on and don't peep at food in the oven! Every time you open the oven door, 4°-5° is lost
7. When preheating an oven for baking, time the preheat period carefully. Five to eight minutes should be sufficient.
8. For large items, stove-top cooking is most efficient, especially with gas.
9. For large items, stove-top cooking is most efficient, especially with gas.

WASHING MACHINES

1. Washing machines can account for as much as 20% of the electricity you use.
2. Use Cold water, as almost 90% of the energy consumed by washing machines goes to heating the water. Set the washing machine temperature to cold or warm and the rinse temperature to cold as often as possible.
3. Each was cycle uses up to 60 to 90 liters of water. Use washing machine on full load and plan washing periodicity to save on water too.
4. Adding too much detergent actually hampers effective washing action and may require more energy in the form of extra rinses.
5. Wash only full loads of clothing-but do not overload machine. Sort laundry and schedule washes so that a complete job can be done with a few cycles of the machine carrying its full capacity, rather than a greater number of cycle with light loads.
6. Soak or pre-wash the cloths for effective cleaning.

COOKING

1. Organized cooking activity can save about 20% Energy.
2. Use right quantity of water required for cooking and reduce gas / kerosene usage by 65%.
3. Cook on low flame as far as possible and save 6 to 10% energy.
4. The pressure cooker should be loaded 2/3rd of the foodstuff is solid & hard and Â½ if loaded with liquid. Properly used pressure cookers can save up to 50 to 75% of energy as well as time.
5. Cook your food in solar cooker and save cost of 2 LPG Cylinders annually.
6. When cooking on a gas burner, use moderate flame settings to conserve LPG.
7. Remember that a blue flame means your gas stove is operating efficiently.
8. Yellowish flame is an indicator at the burner need cleaning.
9. Use pressure cooker as much as possible.
10. Use lids to cover the pans while cooking.
11. Bring items taken out of refrigerators (like vegetables, milk etc) to room temperature before placing on the gas stove for heating.

GEYSER / WATER HEATER

1. Install Solar Water Heating System.
2. By reducing the temperature setting of water heater from 60 degrees to 50 degrees C, one could save ove 18 percent of the energy used at the higher setting.
   To help reduce heat loss, always insulate hot water pipes, especially where they run through unheate areas. Never insulate plastic pipes.
4. A dripping faucet wastes water and if it's dripping hot water, its wasting energy too. Often requiring nothir more then a new washer, fixing leaks is one of the quickest and least expensive ways of reducing the ener and water bills.
5. Another way to reduce waste is to take showers or baths depending on which uses less hot water th baths, other way baths use more. They are both right. Which is correct for you depends on how long and h your showers are and how deep deep and warm your baths are.
6. Using less hot water may be easier than you think. Water conserving shower heads and faucet aerators cut hot water use inn half.. To see if this will work for you, first determine what your faucet and shower f rates are now.
7. To select the right water heater for your home, you need to consider family size and whether your u would be considered high or low demand. It is assumed that you know your family size, so all you hav determine is your usage profile.

COMPUTER

1. Computer that runs 24 hours a day, for instance, used-more power than an energy efficient refrigerator.
2. Screen savers save computer screens, not energy. Start-ups and shutdown do not use any extra energy, nor are they hard on your computer components. In fact, shutting computers down when you are finished using them actually reduces system wear and saves energy.
3. Purchase flat-screen LCD monitors.
4. Setting computers, monitors and copiers to sleep-mode when not in use helps cut energy costs by approximately 40%
5. Activate and standardize 'power down' on new and existing PCs
6. If your computer must be left on, turn off the monitor; this device alone uses more than half the system's energy.

--- Compiled by
Prof. M.L.S.Deva Kumar, JNTUA Ananthapuramu

Model Program Book

COMMUNITY SERVICE PROJECT

Designed & Developed by

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

(A STATUTORY BODY OF GOVERNMENT OF ANDHRA PRADESH)

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DVR & Dr. HS
MIC College of Technology
ISO 9001:2015 Certified Institute
(Approved by AICTE & Permanently Affiliated to JNTUK, Kakinada)
Kanchikacherla - 521180, NTR Dist, A.P, India.
Phones: 08678 - 273535 / 94914 57799 / 73826 16824
E mail: office@mictech.ac.in, Website: www.mictech.edu.in

AUTONOMOUS
Accredited by NAAC With Grade A

PROGRAM BOOK
FOR
COMMUNITY SERVICE PROJECT

Name of the Student: Kunuku. Radha Krishna

Name of the College: DVR & Dr. HS MIC College of technology

Registration Number: 21H75A0342

From: 01/08/2022 **Period of CSP:** **To:** 20/08/2022

From: 09/01/2023 **To:** 28/01/2023

Name & Address of the Community/ Habitation: Kanchikacherla (Village) Kanchikacherla (mandal), ~~Srikakulam~~ NTR (District)

JNTU - KAKINADA

YEAR: 2022 - 2023

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Community Service Project Report

Submitted in accordance with the requirement for the degree of.....

Name of the College: DVR & Dr HS MIC College of technology

Department: Mechanical Engineering

Name of the Faculty Guide: N. Naresh Babu

Duration of the CSP: 6 weeks 3 weeks To: 01/08/2022 20/01/2022 3 weeks From: 09/01/2023 28/01/2023

Name of the Student: Kunuku. Radha krishna

Programme of Study: B.Tech

Year of Study: 3rd year

Register Number: 21H75A0342

Date of Submission: 09/02/2023

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Student's Declaration

I, Kunuku. Radha Krishna, a student of B.Tech Program,

Reg. No. 21H75A0342 of the Department of Mechanical Engineering,

DVR & Dr HS MIC college of tech College do hereby declare that I have completed

the mandatory community service from 20/08/2022 (3 weeks: 01/08/2022) to 28/01/2023 (3 weeks: 09/01/2023) in

Kanchikacherla (*Name of the Community/ Habitation*) under the Faculty

Guideship of N. Naresh Babu, (*Name of the Faculty Guide*), Department

of Mechanical Engineering in

DVR & Dr. HS MIC college of technology College.

K. Radha krishna
09/02/2022

(*Signature and Date*)

Endorsements

09/02/23
CSP-Faculty Guide

Head of the Department
Head of the Department
Dept. of Mechanical Engg.
DVR & Dr. HS MIC College of Technology
Kanchikacherla, NTR Dist.
Andhra Pradesh, INDIA - Pin 521180.

10/2/23
Principal

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Certificate from

Official of the Community

This is to certify that K. Radha Krishna (Name of the Community Service Volunteer) Reg. No 21H75A0342 of MIC college of technology (Name of the College) Underwent community service in Socio-Economic Village Survey (Name of the Community) from 01/08/2022 to 20/08/2022 (Phase-I) and from 09/01/2023 to 28/01/2023 (Phase-II). The overall performance of the Community Service Volunteer during his/her community service is found to be Good *(Satisfactory/Good).*

M. Ramesh

Village Revenue Officer
Kanchikacherla
Kanchikacherla Mandal

Authorized Signatory with Date and Seal

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Acknowledgements

We wish to express our sincere gratitude to our esteemed guide N. Naresh Babu for his valuable guidance, encouragement and gracious support throughout the work. His valuable suggestions, effusive co-ordination and encouraging interactions were a great driving once for us to carry out this Community Service Project.

We are grateful to Dr. D.V. Siva Reddy Head of the Civil Engineering Department, for his support and permitting us to take up our project work and to complete the project successfully.

We express our sincere thanks to Dr. K. Srinivas Principal, DVR & Dr. HS MIC College of Technology, Kanchikacherla.

We are also thankful to M. Ramesh official of the community, who gives support to us during this work and others who assisted us in this community project work.

Project Members

K. Radha Krishna - K. Radha Krishna

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ABSTRACT

The aim of community development project is to establish an effective and sustainable instrument to improve the living conditions and economic status of local communities.

The new approach to village planning provides a paradigm shift in the traditional approach where the role of the government is changed from that of governance to facilitation. It is a well-known fact that village development is a continuous, pluralistic and widely participatory process and basically means, advancement of an area, revealing, unfolding or opening up something which is latent and a change that is desirable.

It requires a comprehensive and sustainable plan of action for the development of rural area which are lagging behind in socio- economic development due generally to prevalence of very low level of literacy and education and heavy dependence on primary production, viz. Agriculture, animal husbandry etc. and where the distribution of productive assets, such as land, is highly skewed (giving rise to serious disparities in income levels), social and development of social and physical infrastructure is lagging behind. In the above backdrop, a participatory exercise was carried out in the kanchikacherla village under Krishna district with the help of schedules and interview among the villagers to observe the present status andmake a sustainable planning.

This study has been an endeavor to find out the resource as well as drawbacks of the previous development attempts. The planning was needed for the holistic development in sustainable way to change into a model village. Emphasis was put on livelihood security, conservation on natural resources, environmental protection, infrastructure development, improvement on practical education, awareness on health and sanitation as well as with the interest of government and the people's participation on planning to make a Sustainable Model Village.

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CHAPTER 1: EXECUTIVE SUMMARY

The community service report shall have only a one-page executive summary. It shall include a brief description of the Community and summary of all the activities done by the student in CSP and five or more learning objectives and outcomes.

A Socio-economic survey is regarded as one of the most important sources of statistical data on household expenditure and income as well as other data on the status of housing, individual and household characteristics and living conditions. Socio-economic survey tools are designed to collect information as a means of improving understanding of local resource management systems, resource use and the relative importance of resources for households and villages.

Socio-economic factors include occupation, education, income, wealth and where someone lives. There are three key measures most commonly used to capture socio-economic surveys in most studies: income, education, and occupation. The social standing or class of an individual or group is often measured as a combination of education, income and occupation. A socioeconomic class is a group of people with similar characteristics. These characteristics can include social and economic standing, level of education, current profession. The concept of classes a collection of individuals sharing similar economic circumstances has been widely used in censuses and in studies of social mobility.

A socio-economic impact assessment is a study to determine how a proposed development project will affect or change the lives of current or future residents of a community or village. Socioeconomic benefits are expected from the development of new markets to promote regional economic structures, to provide alternative sources of employment in rural areas.

Study of the villages is important as it reveals working of various existing agrarian and other associated socio economic institutions governing the village life and drivers of change. It also provides insight into the pace with which

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villages transform and adapt to changing environment and development and integrate with urban areas. The analysis in such studies also indicates implications of the changes that would take place in future in the village and at a large level as well as policies that need to be followed for further progress.

OBJECTIVES OF THE STUDY

1. To study Socio-economic and cultural features of the village and to understand the basic structure of the economy of village Kanchikacherla.
2. To analyse the existing structure along with the changes taking place in various aspects of the village survey study.
3. To evaluate the perceptions of the villagers about problems and challenges faced, changes they have experienced in the village and benefits from government schemes.
4. Based on the data collected during the current survey as well as secondary data, observations were made to capture the changes that have taken place in the status of the village households over a period.
5. To suggest policy measures keeping in view implications for future changes arising from the analysis.

OUTCOMES OF THE PROJECT

- Positive impact on academic outcomes such as demonstrated complexity of understanding, problem analysis, problem-solving, critical thinking, and cognitive development.
- Greater sense of personal efficiency, personal identity, compassion, spiritual growth, and moral development.
- Reduced stereotypes and greater inter-cultural understanding
  Improved social responsibility and citizenship skills.
- Connections with professionals and community members for learning and career opportunities.
- Greater academic learning, communication skills, and personal efficiency can lead to greater opportunity.

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CHAPTER 2: OVERVIEW OF THE COMMUNITY

- About the Community/Village/Habitation including historical profile of the community/habitation, community diversity, traditions, ethics and values.
- Brief note on Socio-Economic conditions of the Community/Habitation.

About the community:

a) Location:

- Kanchikacherla is a village in krishna district of AndhraPradesh state, India.
- It belongs to the Andhra region.
- Pin code of Kanchikacherla village is 521180, and post office of Kanchikacherla village is also Kanchikacherla.
- Kanchikacherla village is in the border of Krishna district and it is 12km away from Nandigama, which is in Krishna district.
- And Revenue office and Tahsildar office are in Kanchikacherla (sub-district).

b) Historical places:

- There are many temples in Kanchikacherla village such as Ramalayam, Durga matha temple, Paiditallamma temple.
- And one of the main temple in Kanchikacherla village is Mutyalamma Talli temple, in which the festival was celebrated for 10 days and it comes only once for 12years.

Socio-economic conditions of the village:

a) Government and politics:

- Kanchikacherla is in kanchikacherla mandal is represented by Nandi9gama assemblyn constitution which in turn represents Vijayawada(Lok Sabha constituency) of Andhra Pradesh.
- The present MLA of Nandigama assembly constitution is Dr.M.JAGAN MOHAN RAO of YSRC party.
- Devineni Venkata Ramana was EX Minister.

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b) Work profile:

- In Kanchikacherla village out of total population, 10329 were engaged in work activities.
- 90.09 % of workers describe their work as Main Work (Employment or Earning more than 6 Months) while 9.91 % were involved in Marginal activity providing livelihood for less than 6 months.
- Of 10329 workers engaged in Main Work, 644 were cultivators (owner or co-owner) while 4702 were Agricultural labourer

Kanchikacherla Data

PARTICULARS	TOTAL	MALE	FEMALE
Total No. of Houses	6,434	-	-
Population	22,756	11,225	11,531
Child (0-6)	2,429	1,231	1,198
Schedule Caste	5,419	2,779	2,640
Schedule Tribe	884	438	446
Literacy	72.91 %	80.91 %	65.18 %
Total Workers	10,329	6,489	3,840
Main Worker	9,305	-	-
Marginal Worker	1,024	389	635

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CHAPTER 3: COMMUNITY SERVICE PART

Description of the Activities undertaken in the Community during the Community Service Project. This part could end by reflecting on what kind of values, life skills, and technical skills the student acquired.

When we visited Kanchikacherla village, first we interacted with the village head(president) to take a permission for surveying village. We discussed about the project and she gave us some information about the village. After interaction with the village head, we have started surveying the village. Our team of ten members are divided into two groups and we started surveying the villagers, by taking the required data in the form.

First, second and third week of community project ,we have collected the data based on the survey report questionnaire. Most of villagers are sharing their needs and problems in village. We have collected the data up to nearly 170-180 families. Every family members have shared their problems, income sources of the family, some techniques used for agriculture purpose. we have noted the problems of the villagers. We covered most of the families in village but some families are missed that to they went for their works and for daily wages.

Fourth and fifth week of community project, all the team members written the problems and also about the villagers that how many of the villagers are literate, about migrated people from villages to cities and towns for daily wages, and what are the crops they are cultivating, the pesticides used by the farmers etc. most of the villagers migrated due to lack of water for irrigation purpose.

Again, on sixth week, we visited the village and gathered all the villagers and conducted an awareness camp. In that camp, we have discussed about the problems of the village, and mainly we have discussed on sanitation and keeping the surroundings neat and clean. In agriculture sector, we preferred them to use only

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organic pesticides , that reduces the health issues. For irrigation purpose, we suggested them to use solar power bore wells. Secondary we have discussed about the migration of people.

The main problems in village:

- High unemployment and low incomes.
- A breakdown in the nuclear family.
- Poor standards of education.
- Drainage system.
- Roads.
- Water problem for agriculture purpose.

The Skills acquired by our team during Community Service Project :

- Improves the ability to apply what we have learned in "the real world".
- Positive impact on academic outcomes such as demonstrated complexity of understanding, problem analysis, problem-solving, critical thinking, and cognitive development.
- Improved ability to understand complexity and ambiguity.
- Improved social responsibility and citizenship skill.
- Improved communication skills.
- Greater involvement in community service.
- Greater academic learning, leadership skills, and personal efficiency.
- Greater interpersonal development, particularly the ability to work well with others, and build leadership and communication skills.

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WEEK 1:

As a part of community service project, our team selected the village Kanchikacherla, which is in, NTR (District). On first week of community project, we went to Kanchikacherla village. initially our team meet the president of the village and taken a permission to visit and survey the village. Our team, first visited the village and activities done by villagers. Then we started surveying the families about their needs, problems, and their habits. In first week, wehave surveyed nearly 50 families.

In 50 families, we surveyed about total number of people living in house, their education, occupation, needs and problems. And we mostly identified that many of the family members are migrating to cities(or)towns. There are educated people in village, but they stopped studying in between due to poor financial support.

About sanitation, GVMC vehicle will visit for every two days and they said that sanitation is not good. And they said the village is not developing and many problems are there in the village.

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WEEK 2:

In second week, we again visited the village to cover some of the families. But in second week we covered almost 70 families. In 70 families, we surveyed about total number of people living in house, their education, occupation, needs and problems. And we mostly identified that many of the family members are migrating to cities(or)towns. There are educated people in village, but they stopped studying in between due to poor financial support.

About sanitation, GVMC vehicle will visit for every two days and they said that sanitation is not good. And they said the village is not developing and many problems are there in village.

According to data collected from these 70 families, these are also reporting the same problems before week 50 families are said. In these 70 families, most of the children are studying properly and having good nutritional food. Agriculture is the main source of their income. We mainly asked about the migration because migration major issue in villages, due to lack sources for income they are migrating.

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WEEK 3:

We have visited the village again on third week of our community project. On third week we have covered almost 50-60 families. And we gathered most of the information from them, about the socio-economic development of village. They have discussed about the problems in a village.

In 60 families, we surveyed about total number of people living in house, their education, occupation, needs and problems. And we mostly identified that many of the family members are migrating to cities(or)towns. There are educated people in village, but they stopped studying in between due to poor financial support.

About sanitation, GVMC vehicle will visit for every two days and they said that sanitation is not good. And they said the village is not developing and many problems …are there in village.

According to data collected from these 60 families, these are also reporting the same problems before week families are said. In these 60 families, most of the children are studying properly and having good nutritional food. Agriculture is the main source of their income. We mainly asked about the migration because migration major issue in villages, due to lack sources for income they are migratin

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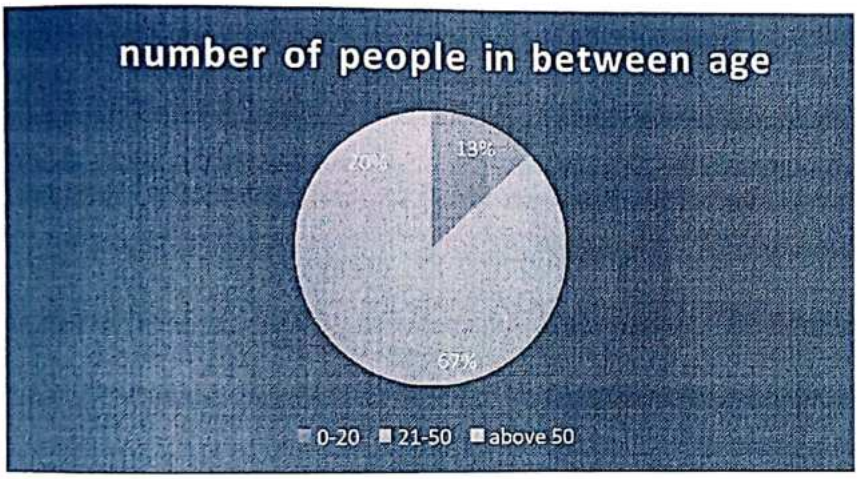
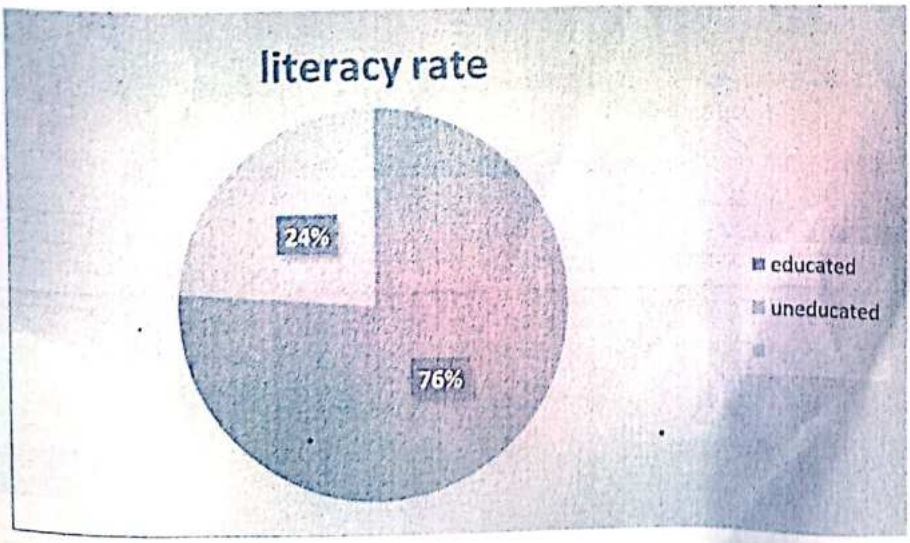
WEEK 4:

In week four of our community project, we analysed and written a detailed report on the collected data about population and literacy rate.

Population: There are nearly 700 people in a village (up to collected data). most of the people in age between 21-50. Children's and youth are of 13% only. Due to migration, the population in a village is decreased.



Literacy rate: There are mostly educated people in village. They are educated but some are studied up to 10th class, and some people up to 12th. so, that are mainly depending on primary production.



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ACTIVITY LOG FOR THE FIFTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	We met with respective organisation and take permission to conducting project	Cooperation from respective	Village Revenue Officer Kanchikacherla Kanchikacherla Manda
Day - 2	Data Collected from Social welfare office	Collective Data	M. Ruth Village Revenue Officer Kanchikacherla Kanchikacherla Manda
Day – 3	Data collected from Sachivalayam	Collecting Data	M. Ruth Village Revenue Officer Kanchikacherla Kanchikacherla Manda
Day – 4	Discussed about the schemes implemented by government	Discussing with team	M. Ruth Village Revenue Officer Kanchikacherla Kanchikacherla Manda
Day – 5	Conducted Survey from near by areas.	Collect Report	M. Ruth Village Revenue Officer Kanchikacherla Kanchikacherla Manda
Day – 6	Conducted Survey from near by areas.	Collect Report	M. Ruth Village Revenue Officer Kanchikacherla Kanchikacherla Manda

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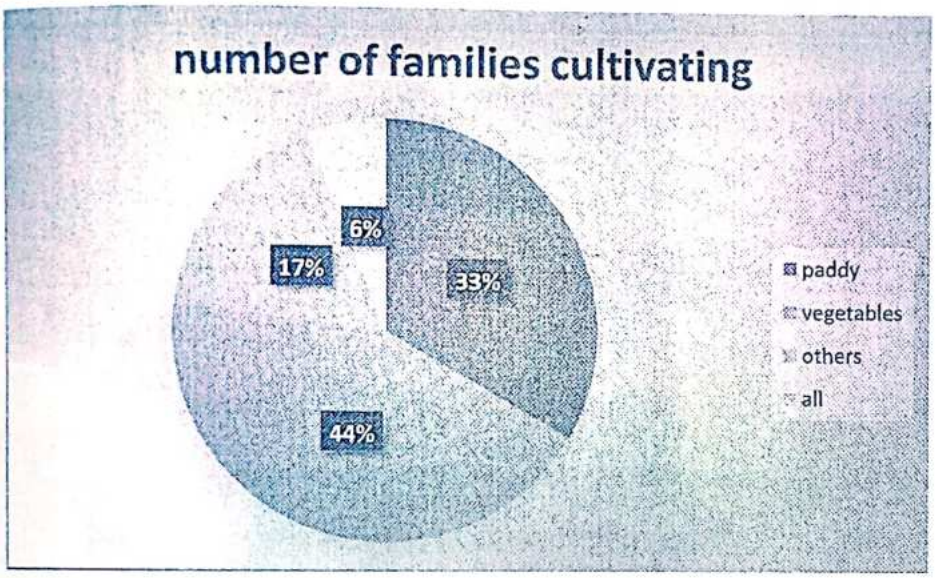
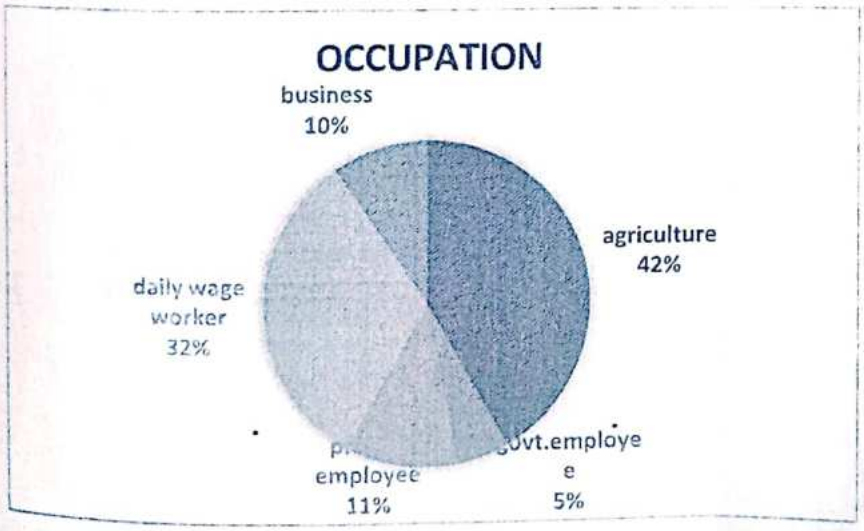
WEEK 5:

In week five of our community project, again we analysed and written a detailed report on the remaining collected data about cultivation and occupation.

Cultivation of crops: Many of the villagers are depending on primary production i.e., agriculture and animal husbandry. Most of the villagers are cultivating paddy and vegetables. Although water is not available for irrigation, some farmers are taken bore wells for irrigation.



Occupation: Due to poor financial background most of the villagers are stopped their education. But there are having some knowledge about the society. Without proper education they are settle in various occupation.



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ACTIVITY LOG FOR THE SIXTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	finding the drawbacks in Government Schemes	Note down the problems	M. Ruhi Village Revenue Officer Kanchikacherla Kanchikacherla Manda'
Day - 2	Discussed about implementation of Schemes in alternate ways.	Disscussing with team	M. Ruhi Village Revenue Officer Kanchikacherla Kanchikacherla Manda'
Day – 3	Awareness of implementation Schemes in local areas	interact with people	M. Ruhi Village Revenue Officer Kanchikacherla Kanchikacherla Manda'
Day – 4	Take permission and collect visions and ideas from teachers.	take permission & interact with teachers	M. Ruhi Village Revenue Officer Kanchikacherla Kanchikacherla Manda'
Day – 5	Collect feedback from students and share my knowledge & Experiences	collect information from students	M. Ruhi Village Revenue Officer Kanchikacherla Kanchikacherla Manda'
Day – 6	We met with higher authorities of village and take signatures.	interact with students	M. Ruhi Village Revenue Officer Kanchikacherla Kanchikacherla Manda'

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WEEK 6:

Again, on sixth week, our team members visited the village with a proper solution for their problems and detailed report of their lives. Our team members are conducted an awareness camp, and we requested to villagers to attend the meeting. We have started with a welcome speech and we invited president and vice-president of the village to tell some words about our community project.

Then we started with the report of the data we have collected. About the population, literacy rate, cultivation, occupation, health problems, and mainly we discussed on nutritional food. We gave our report on how much percentage of the people are educated, about different types of crops they are cultivating, how many of them are having health problems.

The main problems in a village are:

- Drainage system
- Roads
- Street lights
- Clinic(medical shop)
- Municipal bathrooms

We have discussed on the problems and gave them some solutions.

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Roads: we have to construct roads that will available for many years, and we should not allow trucks and heavy vehicles. If we allow then again these constructed roads will damage. For that we gave them the proper solution that while constructing the roads use concrete roads, that will available for longer period.

Drainage system: A proper drainage system should be there for every house in a village, and to maintain neat and clean surroundings drainage is mandatory.

Street lights: Many of the villages are not having street lights ,to construct this a huge amount of power and cost is required. So, we suggested to village head(president) that to build solar street lights to reduce power consumption .

Some of the villagers are came front to discuss about the problems in a village, and they have good unity. And they discussed about the community project.

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CHAPTER 4: OUTCOMES DESCRIPTION

Details of the socio-economic survey of the village/habitation. Attach the questionnaire prepared for the survey.

Questionnaire prepared for the survey:

1. How many members are there in your family?
2. What is the name of the house owner?
3. What is the education of the house owner?
4. What is the name of the spouse of house owner?
5. How many children's they are having and their names and education?
6. What is the main source of income to your family?
7. How many members of your family were literates?
8. What are the major health problems faced in your family?
9. For how long you have been staying in this village?
10. What are the crops that they are cultivating?
11. Is there anyone migrated from your family?
12. What are the sources of water?
13. Are medical facilities available in village?
14. Is drinking water good or not?
15. Any one in your family went for higher studies?

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Describe the problems you have identified in the community

1. There are no proper schools.
2. No proper transportation.
3. No proper roads.
4. Lack of water for irrigation.
5. High addiction to alcohol.
6. Smoking habits.
7. Lack of organic foods.
8. No proper street lights.
9. Un-employment.

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CHAPTER 5: RECOMMENDATIONS AND CONCLUSIONS

This is a project on socio-economic village survey. We selected this topic to identify the emerging problems caused due to lack of education, unemployment, transportation, agriculture. We used the survey technique to conduct this mini project,as survey captures better data to collect and analyze socio-economic lives of the people in the community.

The main objective of this survey is to identify the problems of the community that are causing people of the community to lack of education, unemployment, transportation, agriculture. This also includes the challenges faced by the villagers. This survey helped us to explore the consequences of rural villages.

We a group of ten people gathered as a group to complete this survey in our nearbycommunity. We were divided into two groups and collected the data from the villagers through communicating with them.

We came to know that there were many reasons that the village is not developing. The problems include Education, Transportation , Irrigation , Unemployment, and lack of Medical Facilities.

RECOMMENDATIONS:

- ✓ We recommended the villagers to maintain proper diet and keep surroundings clean and neat.
- ✓ Recommended to use solar panels for agricultural bore wells.
- ✓ Recommended to educate the children and don't quit their education due to poor financial background.
- ✓ Recommended to use public transport, that will reduce pollution.

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Socio-Economic Development Challenges include:

- High unemployment and low incomes. This is at the heart of many of the Socio-economic development challenges.
- A breakdown in the nuclear family.
- Poor standards of education.
- Unsustainable business practices.

CONCLUSION:

- Here by we conclude that there are many problems in village and also people in village also have problems.
- To reduce, these problems they should be careful for their cause. And government officials have to look into problems in village.
- It is also very essential and important part of education, because it helps us to know and realise the socio-economic condition of particular society, the living standard of its people, their views towards education.
- So, the "socio-economic survey" lays a pivot role in our educational system.

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Student Self-Evaluation for the Community Service Project

Student Name: Kunuku. Radha krishna

Registration No: 21H75A0342

Period of CSP: From: 01/05/2022 To: 20/05/2022

Date of Evaluation: 09/01/2023 08/01/2023 09/02/2023

Name of the Person in-charge: M. Ramesh

Address with mobile number: Kanchikacherla. NTR District

Please rate your performance in the following areas:

Rating Scale: **1 is lowest and 5 is highest rank**

1) Oral communication	1	2	3	4	5 ✓
2) Written communication	1	2	3	4 ✓	5
3) Proactiveness	1	2	3	4	5 ✓
4) Interaction ability with community	1	2	3	4	5 ✓
5) Positive Attitude	1	2	3	4	5 ✓
6) Self-confidence	1	2	3	4 ✓	5
7) Ability to learn	1	2	3	4	5 ✓
8) Work Plan and organization	1	2	3	4 ✓	5
9) Professionalism	1	2	3 ✓	4	5
10) Creativity	1 ✓	2	3	4	5
11) Quality of work done	1	2	3	4 ✓	5
12) Time Management	1	2	3	4	5 ✓
13) Understanding the Community	1 ✓	2	3	4	5
14) Achievement of Desired Outcomes	1 ✓	2	3	4	5
15) OVERALL PERFORMANCE	1 ✓	2	3	4	5

Date:

K. Radha krishna

Signature of the Student

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Evaluation by the Person in-charge in the Community/Habitation

Student Name: Registration Kunuku. Radha Krishe

No: 21HAS A0342

period of CSP: From: 01/08/2022 To: 20/08/2022
09/01/2023 28/01/2023

Date of Evaluation: 09/02/2023

Name of the Person in-charge: M. Ramesh
Address with mobile number: Kanchikacherla (village)

Please rate the student's performance in the following areas:

Please note that your evaluation shall be done independent of the

Student'sRating Scale: 1 is lowest and 5 is highest rank

1) Oral communication	1	2	3	4	5
2) Written communication	1	2	3	4	5
3) Proactiveness	1	2	3	4	5
4) Interaction ability with community	1	2	3	4	5
5) Positive Attitude	1	2	3	4	5
6) Self-confidence	1	2	3	4	5
7) Ability to learn	1	2	3	4	5
8) Work Plan and organization	1	2	3	4	5
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10) Creativity	1	2	3	4	5
11) Quality of work done	1	2	3	4	5
12) Time Management	1	2	3	4	5
13) Understanding the Community	1	2	3	4	5
14) Achievement of Desired Outcomes	1	2	3	4	5
15) OVERALL PERFORMANCE	1	2	3	4	5

Date:

M. Ramesh

Signature of the Supervisor

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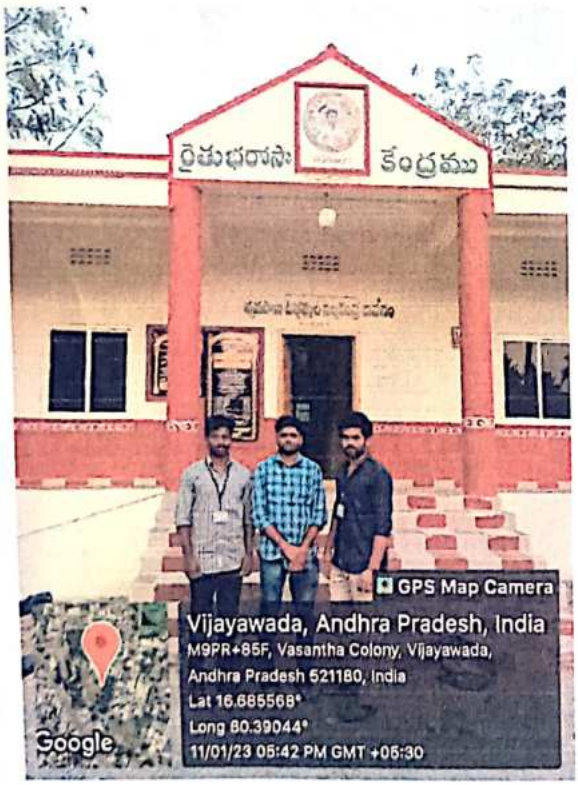

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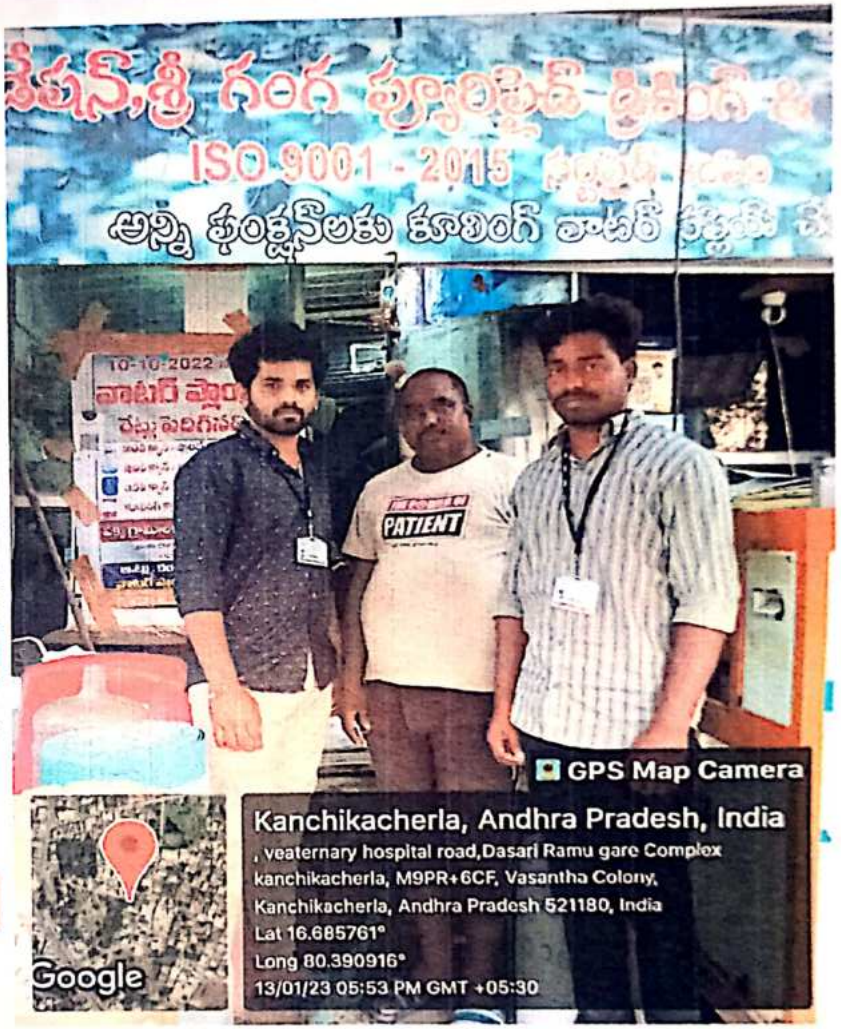

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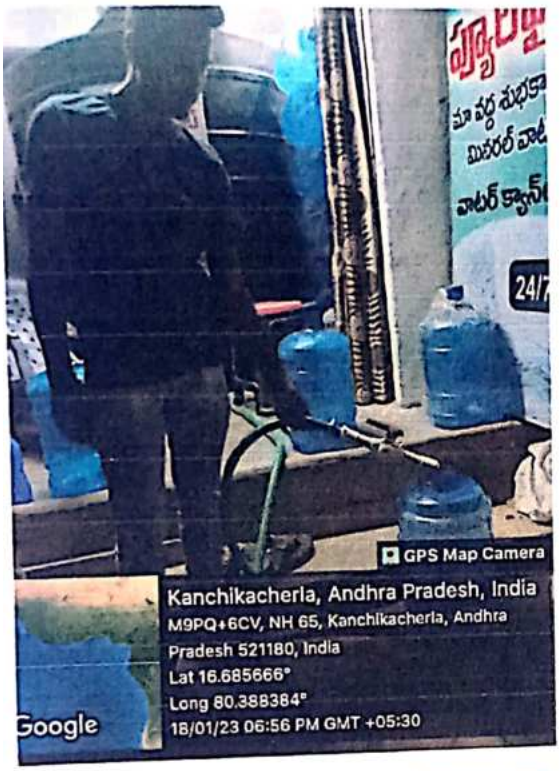

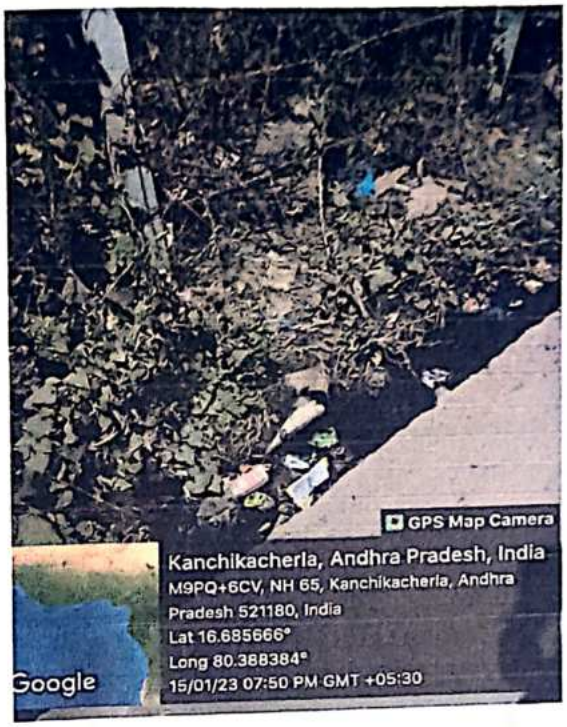

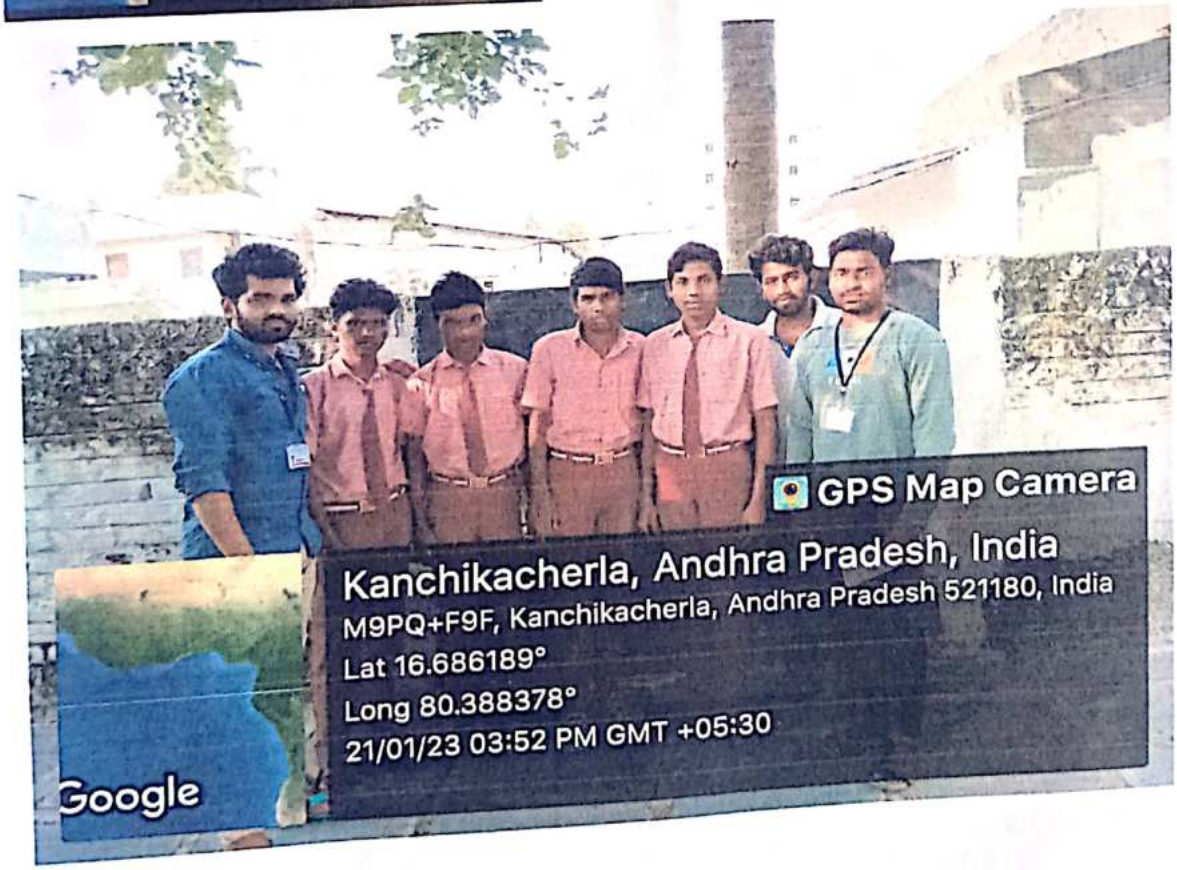

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ANDHRA PRADESH
STATE COUNCIL OF HIGHER EDUCATION

(A Statory Body of the Government of Andhra Pradesh)
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Atmakur (V)Mangalagiri (M), Guntur, Andhra Pradesh, Pin - 522 503
www.apsche.ap.gov.in

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COMMUNITY SERVICE PROJECT

Designed & Developed by

ANDHRA PRADESH
STATE COUNCIL OF HIGHER EDUCATION

(A STATUTORY BODY OF GOVERNMENT OF ANDHRA PRADESH)

DVR & Dr. HS
MIC College of Technology
ISO 9001:2015 Certified Institute
(Approved by AICTE & Permanently Affiliated to JNTUK, Kakinada)
Kanchikacherla - 521180, NTR Dist, A.P, India.
Phones: 08678 - 273535 / 94914 57799 / 73826 16824
E mail: office@mictech.ac.in, Website: www.mictech.edu.in

AUTONOMOUS
Accredited by NAAC With Grade A

PROGRAM BOOK FOR COMMUNITY SERVICE PROJECT

Name of the Student: T. UMA VENKATA RAMANA

Name of the College: D.V.R & Dr. H.S MIC College of Technology.

Registration Number: 21H75A0367

Period of CSP: 6 - Weeks **From:** 30/7/2022 **To:** 13/08/2022

From: 09/01/2023 **To:** 31/01/2023

Name & Address of the Community/ Habitation:

Satyavolu, Pedapadu mandal, Eluru dist, AP.

JNTU - KAKINADA

YEAR: 2022 - 2023

Instructions to Students for Community Service Project

Please read the detailed Guidelines on Community Service Project hosted onthe website of AP State Council of Higher Education https://apsche.ap.gov.in

Link: https://apsche.ap.gov.in/Pdf/Guidelines%20for%20the%20OJT%20Internship%20Community%20Service%20Project.pdf

1. It is mandatory for all the students to complete 180 hours of Community Service Project as a part of the internship/on the job training.
2. Consider yourself a committed volunteer in the community, you work with.
3. Every student should identify the village/community/habitation for Community Service Project (CSP) in consultation with the College Principal/the authorized person nominated by the Principal.
4. Report to the community/habitation as per the schedule given by the College. You must make your own arrangements for transportation to reach the community/habitation.
5. You will be assigned a Faculty Guide from your College. He/She will be creating a WhatsApp group with your fellow volunteers. Post your daily activity done and/or any difficulty you encounter during the programme.
6. You should maintain punctuality in attending the CSP. Daily attendance is compulsory.
7. You are expected to learn about the community/habitation and their problems.
8. Know the leaders and the officials of the community/habitation.
9. While in the project, always wear your College Identity Card.
10. If your College has a prescribed dress as uniform, wear the uniform daily.
11. Identify at least five learning objectives in consultation with your Faculty Guide. These learning objectives can address:
    - Information about the community, including the realities and problems of the society.
    - Need for creating awareness on socially relevant aspects/programs.
    - Acquiring specific Life Skills.
    - Learning areas of application of knowledge and technologies related to your discipline.
    - Identifying developmental needs of the community/habitation.

12. Practice professional communication skills with team members, and with the leaders and officials of the community. This includes expressing thoughts and ideas effectively through oral, written, and non-verbal communication, and utilizing listening skills.
13. **Be regular in filling up your Program Book. It shall be filled up in your own handwriting. Add additional sheets wherever necessary.**
14. At the end of Community Service Project, you shall be evaluated by the person in-charge of the community/habitation to whom you report to.
15. There shall also be an evaluation at the end of the community service bythe Faculty Guide and the Principal.
16. Do not indulge in any political activities.
17. Ensure that you do not cause any disturbance to the inhabitants or households during your interaction or collection of data.
18. Be cordial but not too intimate with the people you come across during your service activities.
19. You should understand that during this activity, you are the ambassador of your College, and your behavior during the community service programme is of utmost importance.
20. If you are involved in any discipline related issues, you will be withdrawn from the programme immediately and disciplinary action shall be initiated.
21. Do not forget to keep up your family pride and prestige of your College.
22. Remember that you are rendering valuable service to the society and your role in the community development will become part of the history of the community.

Community Service Project Report

Submitted in accordance with the requirement for the degree of.....

Name of the College: DVR & Dr. H.S MIC College of Technology

Department: Mechanical Engineering

Name of the Faculty Guide: D. Divya

Duration of the CSP: 6-weeks From: 09/1/2023 To: 25/01/23.

Name of the Student: T. UMA VENKATA RAMANA

Programme of Study: B-Tech

Year of Study: III-Year

Register Number: 21H75A0367

Date of Submission: 10/02/2023

Student's Declaration

I, T. UMA VENKATA RAMANA, a student of B-Tech Program, Reg. No. 21H75A0367 of the Department of Mechanical Engineering DVR & Dr. H.S MIC College College do hereby declare that I have completed the mandatory community service from 09/1/23 to 23/01/23. in Satyavolu *(Name of the Community/ Habitation)* under the Faculty Guideship of D. Divya, *(Name of the Faculty Guide)*, Department of Mechanical Engineering in DVR & Dr. H.S MIC College of Technology College.

T.U.V. Ramana.

(Signature and Date)

Endorsements

D. Divya

CSP- Faculty Guide

Head of the Department

10/2/23

Principal

Certificate from
Official of the Community

This is to certify that T. UMA VENKATA RAMANA *(Name of the Community Service Volunteer)* Reg. No 21HA5A0567 of DVR & DR HS MIC College of Technology (Name of the College) underwent community service in Modernization of Water Supply. *(Name of the Community)* from 30/7/22 to 3/08/2022 (Phase-I) and from 09/01/23 to 25/01/23. (Phase-II). The overall performance of the Community Service Volunteer during his/her community service is found to be Good *(Satisfactory/Good).*

Authorized Signatory with Date and Seal

Pan... Secretary
Gram Panchayat, Satyavolu
Pedapadu Mandal, W.G.Dist.,

Acknowledgements

We wish to express our sincere gratitude to our esteemed guide D. Divya for his valuable guidance, encouragement and gracious support throughout the work. His valuable suggestions, effusive co-ordination and encouraging interactions were a great driving once for us to carry out this Community Service Project.

We are grateful to Dr. D.V. Siva Reddy Head of the Civil Engineering Department, for his support and permitting us to take up our project work and to complete the project successfully.

We express our sincere thanks to Dr. K Srinivas, Principal, DVR & Dr. HS MIC College of Technology, Kanchikacherla.

We are also thankful to S. Vinay Kumar official of the community, who gives support to us during this work and others who assisted us in this community project work.

T.U.V. Ramana.
Project Members

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CHAPTER-1

Executive Summary

In the urban area the physical infrastructure plays an Important role in water distribution System the water supplies from the reservoir for the Consumer end. The pattern of the pipeline will follow the road network of the area Due to rapid urbanisation in an urban area the water demand is rapidly increasing therefore the pressure on the Existing Network is growing this may result in the gap b/w supply and consumer chain the different management head defectation plays significant role in the different in the supplying management of water distribution system in managing the supply of water.

CHAPTER-2

Overview of the Community

Today urban India faces serious problems of the safe drinking water shortage in degrade sanitation and limited resources due to rapid growth of population & unchanged planning therefore needs to pay attentation forwards water supply & sanitation in term about quality of life & Economy growth of the nation this section providing background study based on literature research papers & case study of following

Pooja Jungariya at U.S (2016) observed that pipe failure in system disrupted the water supply to the consumer and reduced the reliability of the system. Therefore computer control, maintain and rehabilitation programme of the existing system is required to operate properly by EPANET software analysis of pressure and duration and nodal nodes and head loss at each pipe is carried at moderation.

CHAPTER-3

Community Service Part

The main concentration is to modernize the existing water distribution system. Due to this loss of water in the system. user may suffer to detect that is loss is very important for the sufficient supply. so by apply modern tools and equipments the System may work more efficiently. By using water HEMS the operation of the system will be so tracked easly by the Software. There are so many different types of tools used for the water distribution System

CHAPTER-4

ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	I Observed water transmission through pipe lines	I learned about how the water supplied from river to rural place	
Day - 2	I Observed water storage tanks	I learned about how the river water is stored	
Day – 3	I observed water pipelines from river to storage tank	we learned about leakages of pipelines.	
Day – 4	we I Observed the leakages of pipeline	I learned about leages of pipeline	
Day – 5	I Observed the filtering of water	I learned about how the water is filtered	
Day –6	I observed the storage tank which is stored by filter water	I learned about how the filter water is stored.	

WEEKLY REPORT

WEEK – 1 (From Dt..30/7/22.. to Dt .5/8/22...)

Objective of the Activity Done: Water Transmission To pipes.

Detailed Report:

The distribution pipe lines are generally laid below the road parameters and their layouts generally follows the layouts of roads. There are different types of pipe networks. They are.

* Dead End system
* Grid iron system
* Ring system
* Radial system

Distribution reservoirs are called as service reservoirs are the storage reservoirs

Types of reservoirs.

* Under ground Reservoirs
* Small ground level Reservoirs
* large Ground level Reservoirs
* Over Head tanks.

ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	I observed that main Storage tank to rural area tanks	I learned about supply to water to rural area tanks	
Day - 2	I observed that supply of water from rural area tank to taps. and house holds	I learned about water Supply to households.	
Day – 3	I Observed that water Supply to irrigation	I learned about water Supply to irrigation	
Day – 4	I Observed that types of valves used in irrigation	I learned about types of valves used in irrigation.	
Day – 5	I observed that types of pumps used in irrigation	I ~~observed~~ learned that types of pumps used in irrigation	
Day –6	I observed that water Supply to hill range	I learned that water supply to hill range.	

WEEKLY REPORT

WEEK – 2 (From Dt..6/8/22.... to Dt ..13/8/22....)

Objective of the Activity Done: Water Storage tanks.

Detailed Report:

Water distribution system is hydralic infrastructure that consists of different elements like pipes values pumps, tanks and fountains. This infrastructure helps to convey water from the source to the consumers. Designing and operation a water distribution system is the most important consideration for a life time for expected loading conditions, further new distribution system must be able to assist the abnormal conditions such as pipe breakage, mechanical failure of pipes values and control systems power failure and exhaustively demand proportions.

ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	I observed that main storage tank to rural area tank	I learned About Supply of water to rural areas	
Day - 2	I observed that supply of water from rural area tanks to tap	I learned about water supply to households	
Day – 3	I observed that water supply to irrigation	I learned about water supply to irrigation	
Day – 4	I observed that storage tank to water rural area tank	I learned about water from storage tank to rural area tank	
Day – 5	I observed that supply of water from rural area to tap	I learned about water supply to house holds	
Day –6	I observed that water supply to irrigation	I learned about water supply to irrigation.	

WEEKLY REPORT

WEEK – 3 (From Dt...9./1./22. to Dt .25./1./23..)

Objective of the Activity Done: Water Supply to House Hold purpose.

Detailed Report:

The purpose of water distribution system to deliver water to Consumer with appropriate Quantity, quantity and pressure, water distribution system is used to describe Collectively the facilities is used to supply water from it's source to the point of usage The flow of the water from source to Consumer is given below mapping the objective of the study to generate thematic map.

ACTIVITY LOG FOR THE FORTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	I observed that water transmission through pipelines.	I learned about how the water supplies.	
Day - 2	I observed water storage tank	I learned about how the river water stores	
Day – 3	I observed water pipe lines from river to storage tank	I learned about types of valves.	
Day – 4	I observed that leakages of pipeline	I learned about leakages of pipelines.	
Day – 5	I observed the filtering of water.	I learned about how the water is filtered.	
Day –6	I observed the storage tank which is stored by filter water	I learned about the storage tank of filter water.	

WEEKLY REPORT

WEEK – 4 (From Dt..16/1/22. to Dt ..23/1/23)

Objective of the Activity Done: Water pipe line from Potor to Storage tank.

Detailed Report:

Discussed that for a smart, sustainable cites the following components should be. In the city like smart pipe network, smart monitoring it's mapping communication. By computing smart technologies with existing city the smart technologies with existing city the smart services is applied to the city and the makes the city smarter. It water distribution models are prepared by the use water tems with irrigation for for them optimized design and process loss estimation SCADA integration and network simplification is applicable.

ACTIVITY LOG FOR THE FIFTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	We observed that leakages of pipes	we learned about leakages of pipelines	S.V. Kumar Panchayat Secretary Gram Panchayat, Satyavolu Pedapadu Mandal, W.G.Dist.,
Day - 2	We observed that filtering of water	we learned about filtering of water	S.V. Kumar Panchayat Secretary Gram Panch Satyavolu Dist.,
Day – 3	we observed that water supply for irrigation	we learned about about water supply to irrigation	S.V. Kumar Panchayat Secretary Gram Panchayat, Satyavolu Pedapadu Mandal, W.G.Dist.
Day – 4	we observed that type of water valves used in irrigation.	we learned about water valves used in irrigation	S.V. Kumar Panchayat Secretary Gram Panchayat, Satyavolu Pedapadu Mandal, W.G.Dist
Day – 5	we observed that type of pumps used in irrigation.	we learned that types of pumps used in irrigation	S.V. Kumar Panchayat Secretary Gram Panchayat, Satyavo Pedapadu Mandal, W.G.Di
Day –6	we observed that water supply to hill range.	we learned that supply of water to hill range	S.V. Kumar Panchayat Secretary Gram Panchayat, Satyavo Pedapadu Mandal, W.G.Dis

WEEKLY REPORT

WEEK – 5 (From Dt...9/1/23... to Dt 25/1/23..)

Objective of the Activity Done: Types of Valves and pipes used.

Detailed Report:

Developed a wireless sensors to detecte enable to real time monitoring of water Quality parameters and hydraulic in Extensive urban water distribution system for further demand forecasting on line predicator corrector (LPC) procedure is used. To Eliminate the future hydraulic state statistical data driven algorithm is applied the water wise wireless sensor network predicts the data that work connected by an evolutionary optimization technique in this paper a predicator corrector model was presented and demonstrated for an live hydraulic state predction in singapore.

ACTIVITY LOG FOR THE SIXTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	Observed water flowing through the pipe line	We learned about how the water supplied from receiver.	Panchayat Secretary Gram Panchayat, Satyavolu Pedapadu Mandal, W.G.Dist.,
Day - 2	We observed water storage tanks.	We learned about how the water is stored in tank.	Panchayat Secretary Gram Panchayat, Satyavolu Pedapadu Mandal, W.G.Dist.,
Day – 3	We observed water pipeline from over to storage tank.	We learned about valves.	Panchayat Secretary Gram Panchayat, Satyavolu Pedapadu Mandal, W.G.Dist.,
Day – 4	We observed the leakages of pipeline	We learned about leakages.	Panchayat Secretary Gram Panchayat, Satyavolu Pedapadu Mandal, W.G.Dist.,
Day – 5	We observed the filtering of water	We learned about how the water filter.	Panchayat Secretary Gram Panchayat, Satyavolu Pedapadu Mandal, W.G.Dist.,
Day –6	We observed the storage struct which are stored by filtered water.	We learned about how the filter works.	Panchayat Secretary Gram Panchayat, Satyavolu Pedapadu Mandal, W.G.Dist.,

WEEKLY REPORT

WEEK – 6 (From Dt...16/1/23 to Dt 23/1/23)

Objective of the Activity Done: Water Supply to Hill Range.

Detailed Report:

All the Major rivers of the world have their Headwaters in highlands and more than half of humanity relies on the fresh water that accumulates in mountain areas. Although they constitute a respectively small proportion of river basins most of river flow downstreams originates in mountain the proportion depending on the season. These water towers are crucial to the welfare of humankind As demand grows. the potential for conflict over the use of mountain water increase. Active management of the source of water as well as of the resources themselves must therefore becomes a global priority in a world moving toward a water crisis is in the next century.

CHAPTER-5

Outcomes Description

The Main Concentration is to modernize the Existing water distribution system Due to the loss of water in the system can May be subject to detect then is low in usage very important for the Subsequent Supply. So by apply modern tools and Equipments the system May work more efficiently By using water hamers. the operation of the system will be so cars if some problem is noted then it Can be tracked easily by the software. There are so Many different types of tools used for the water distribution system that includes in different literature but as Compared to others water HIMS is more accurate.

CHAPTER-6

Recommendations and Conclusions

The Main Concentration is to Modernize the Existing water Distribution system. Due to the loss of water in the system Year may be suffer to Detailed that is loss is Very important for the Settlement of water networks so by applying modern tools and Equipments and Litigance to American water distribution system. May work more. efficiently. By using system water HEMS. The Operations of the system will be Easy and if some problem is locked then that it Can be water Distribution system is routine water traced Easily by the Software. There are so many Quality Measurements of system that included that different types of tools and Equipments used for water distribution System.

CHAPTER-7

Student Self-Evaluation for the Community Service Project

Student Name: T.U.V.Ramana

Registration No: 21H75A0367

Period of CSP:

Date of Evaluation:

Please rate your performance in the following areas:

Rating Scale: **Letter grade of CGPA calculation to be provided**

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Proactiveness	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

T.U.V.Ramana
Signature of the Student

Date:

CHAPTER-8

Evaluation by the Person in-charge in the Community / Habitation

Student Name: T.U.V. Ramana

Registration No: 21H75A0367

Period of CSP:

Date of Evaluation:

Name of the Person in-charge:
Address with mobile number:

Please rate the student's performance in the following areas:

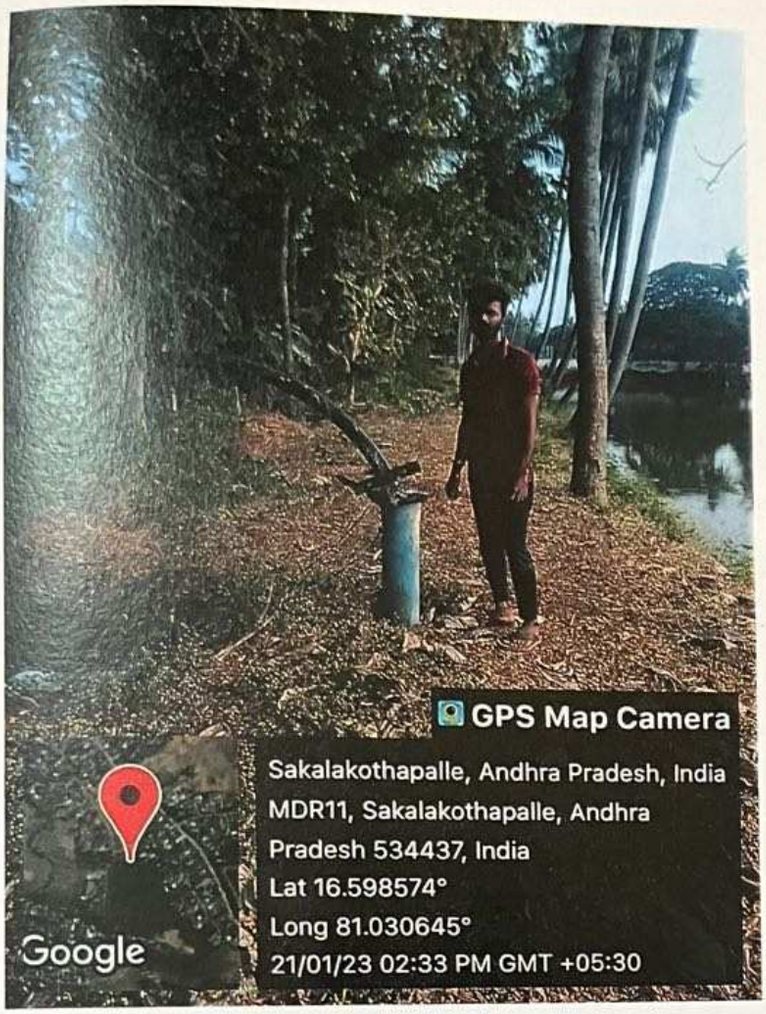
Please note that your evaluation shall be done independent of the Student's self-evaluation

Rating Scale: 1 is lowest and 5 is highest rank

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Proactiveness	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

Date:

Signature of the Supervisor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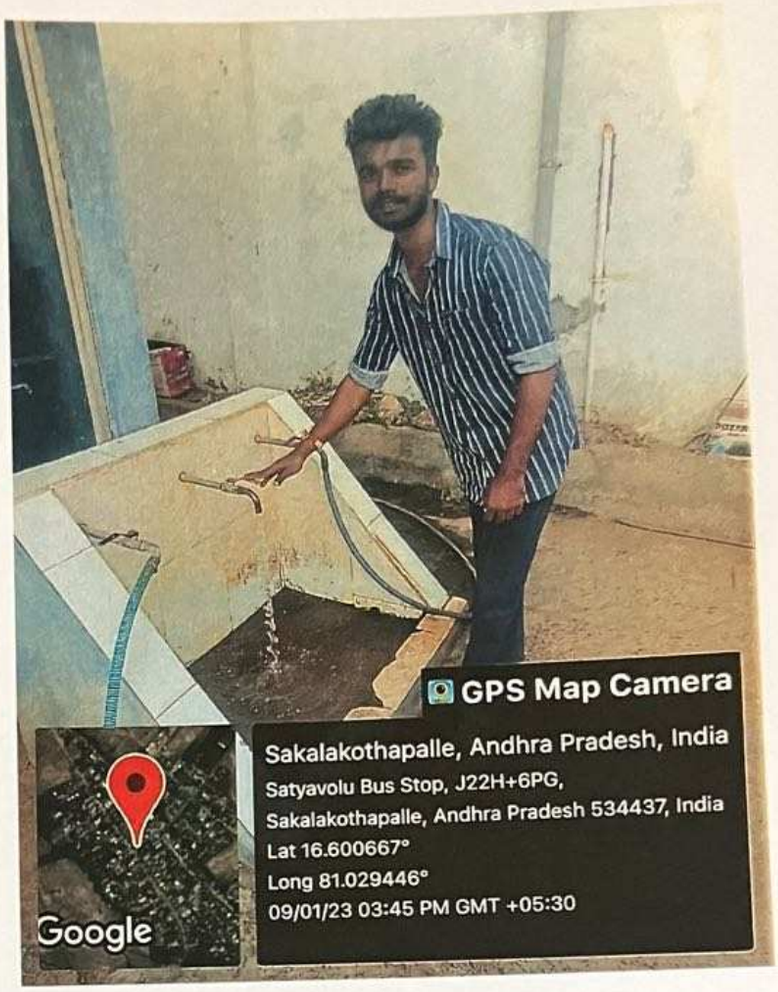
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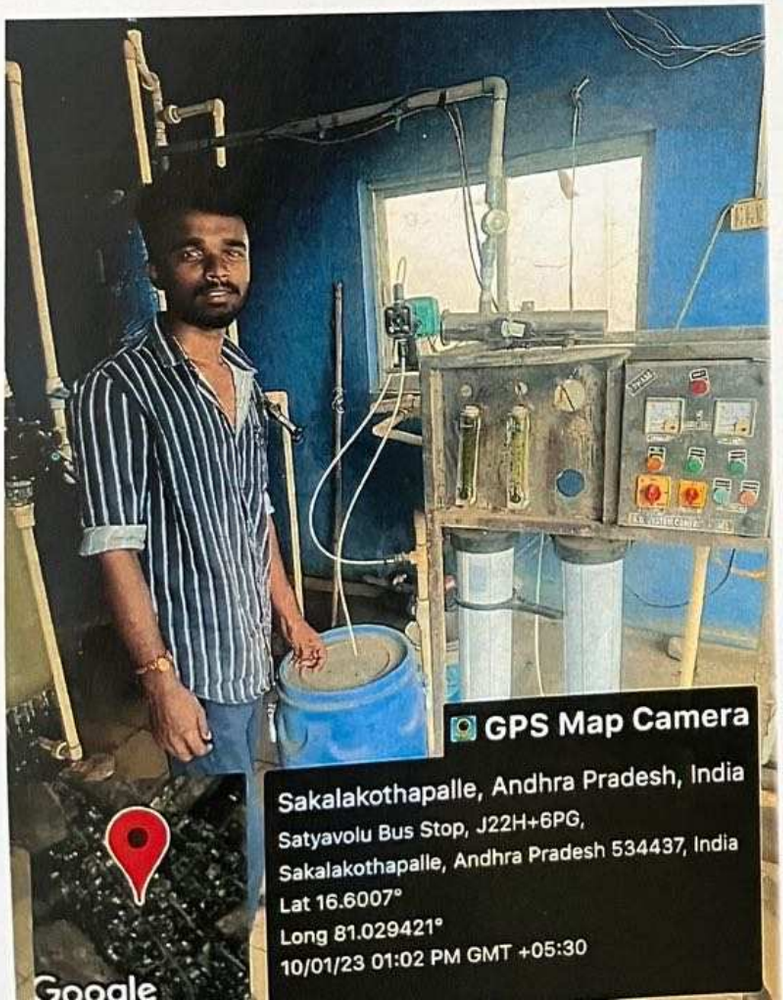
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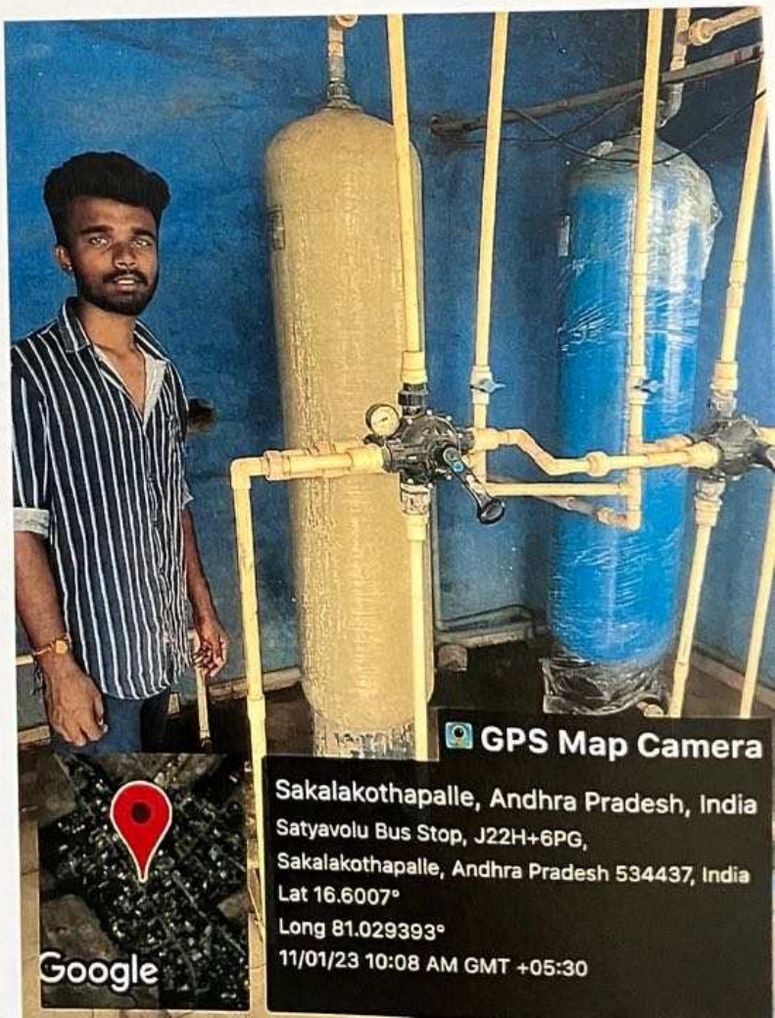
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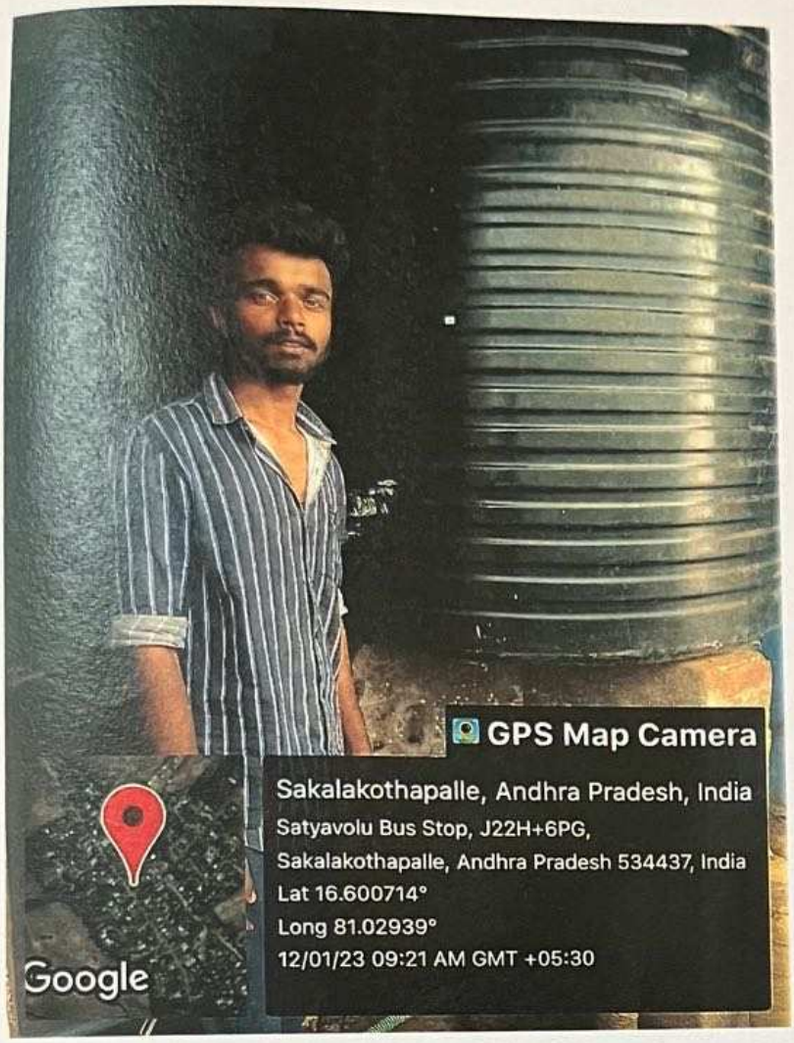
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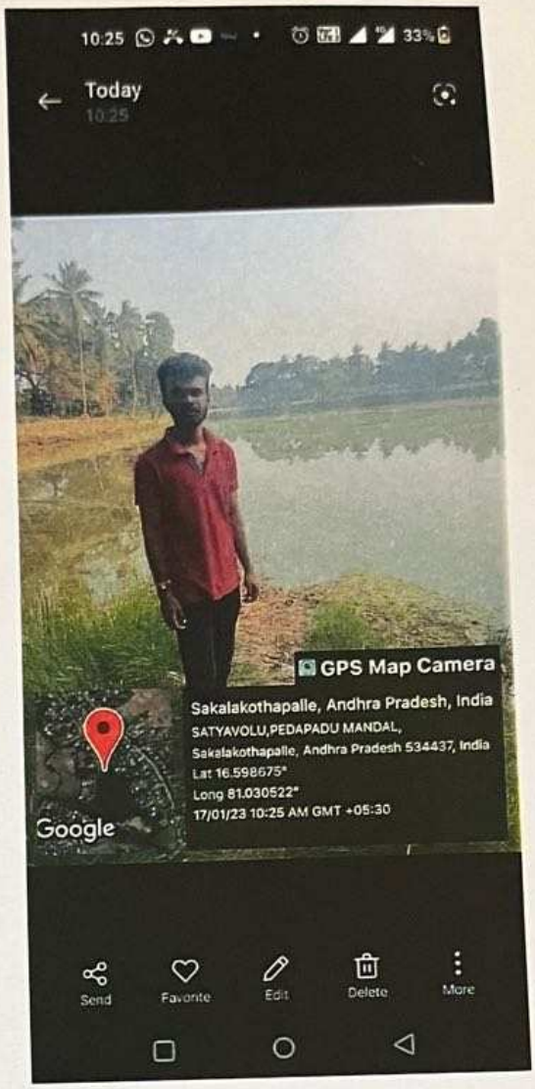
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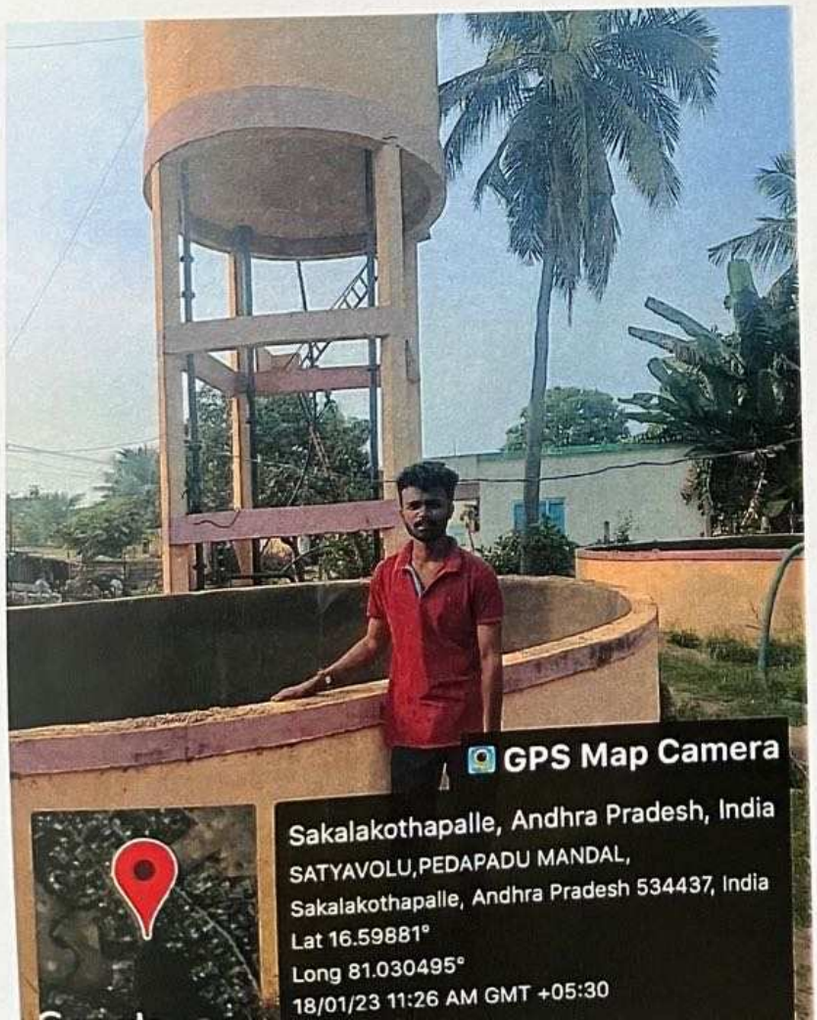
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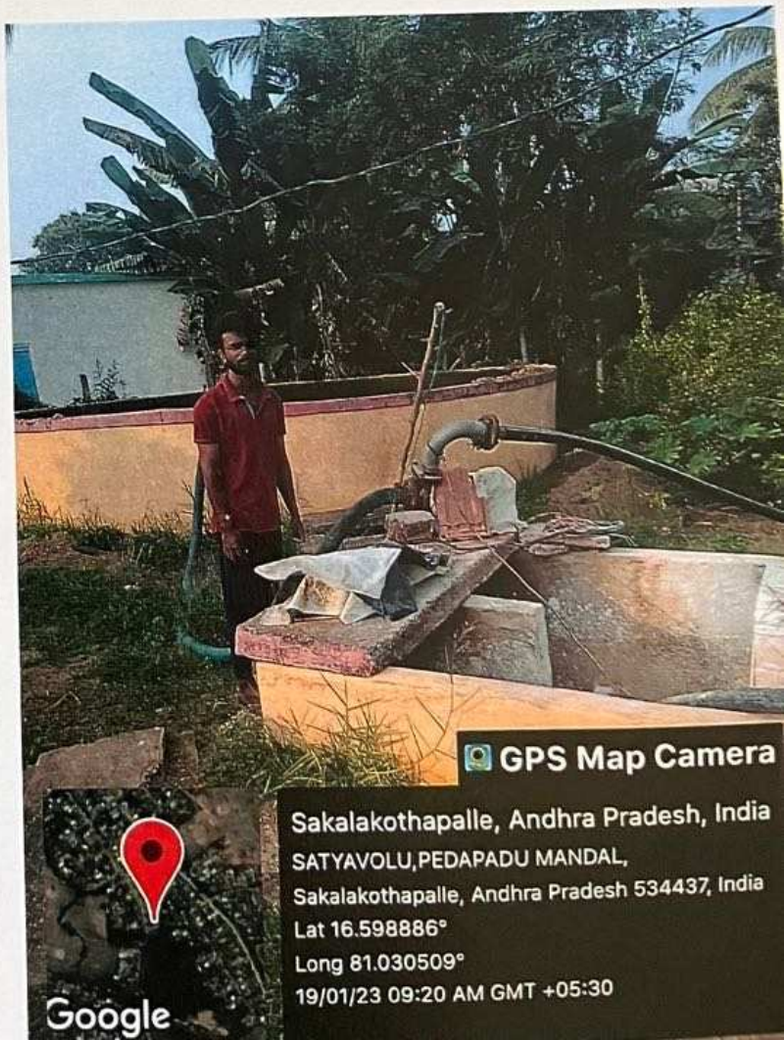
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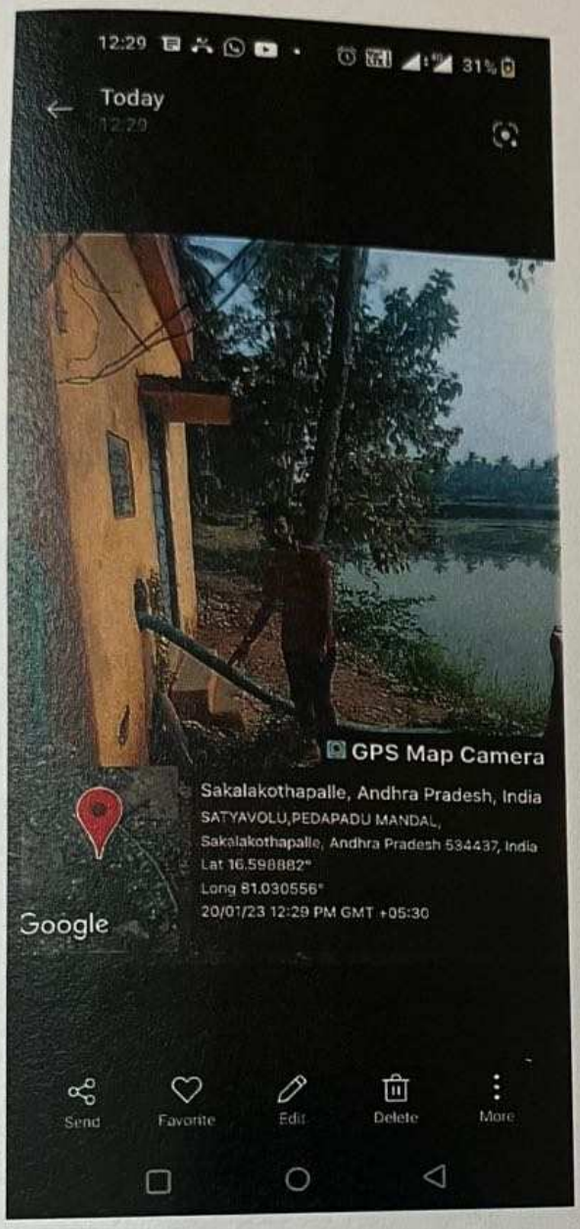
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BOARD FOR COMMUNITY DEVELOPMENT *through* EDUCATION
GOVERNMENT OF ANDHRA PRADESH
2nd floor, Neeladri Towers, Sri Ram Nagar, 6th Battalion Road, Atmakur (V), Mangalagiri (M),
Guntur Dt. A.P.– 522 503, E-mail: secretarybcd2021@gmail.com; Mobile: 9440285609

HOME ENERGY AUDIT - WORKSHEET

OBJECTIVES:

To estimate Energy consumption for a house;

To understand peak energy consumption pattern;

To identify ways and means of Energy Conservation;

To propose action plan for Energy Conservation;

To measure the savings after implementation of Energy conservation tips.

INTRODUCTION:

Energy is an important commodity in this modern era. As the utility of energy is continuously increasing due to reasons like population growth, increase in usage of electrical equipment, mechanization, enhancement in comfort living requirements etc., The Energy production is not increasing to meet such peak increase in usage of Energy. It is leading to huge gap between Energy Demand and Supply. Hence it is every citizens responsibility to reduce the gap between energy demand and supply by conserving energy as much as possible. In order to implement energy conservation it is necessary to understand the consumption patterns and possible avenues of conservation. Energy Audit is one best way to achieve this.

An energy audit is a way to calculate how much energy being used at home. It will help the citizen to identify how much energy each home uses and where could be saving energy possible. It is the first step to making the home, the school or any other area more energy efficient.

Activity 1: Calculate the Amps and energy used by all of these appliances in one day:

Equation for calculating energy:

- Energy (kWh) = (Power (watts) x time x number of appliances) ÷ 1000

Appliance	Power (W)	Number of appliances	Time used (hour)	Energy (kWh)
Ceiling Fan	**80W**	**2**	**5**	**(80 x 5x 2) ÷ 1000 = 0.8 kWh**
Desktop computer	300W	1	4	1300x1x4 ÷1000 = 1.2kwh.
LED bulb	10W	4	6	(10x4x6)/1000 = 0.24 kwh
Tube light	40W	2	5	(40x2x5)/1000 = 0.4 kwh
Television	200 W	1	4	(200x1x4)/1000 = 0.8 kwh
Washing Machine	320W	0	0	(1400x0x0)/1000 = 0 kwh.
Microwave	1400W	0	0	1400x0x0/1000 = 0 kwh
Refrigerator	2000W	1	8	(2000x1x8)/1000 = 16 kwh
Immersion Water Heater	1000W	0	0	(1000x0x0)/1000 = 0 kwh.
Geyser	3000W	0	0	(3000x0x0)/1000 = 0 kwh

Activity 2: Questions

1. Which were the three appliances that used the most energy? What are they used for ?

Refrigerator, Television, Tubelight, These are used for kitchen of Vegetables, entertainment and for light

2. a) What was the total energy used by all of the appliances (tip – add up all of the energy (kWh) values): 18.64

*** Note – it is likely that your energy usage may be higher than the calculated value as you may have other appliances that are not included in this table. This worksheet provides an approximate value.**

18.64 kwh

total energy used by all appliances by the number of days in the month).

559.2 kwh is Consumed an average in a month.

c) **Check your electricity bill and compare it to the monthly energy usage that you calculated.**

Your total monthly energy usage from your calculation in 2(b)	559.2
Your total monthly energy usage from electricity bill	812

An average household in Mumbai city consumes 298kWh of electricity every month and releases about 244kgs of CO_2e (1kWh releases 0.82 kg CO_2e)

3. Write down ideas for reducing energy consumption for appliances in each category:

Device	Ideas to reduce energy
Example: Washing Machine	I could hand wash my clothes some days. Also, I could make sure my family runs bigger loads of washing so that we do not waste water.
Heating and cooling	For Cooling, usage of refrigerator is reduced by not keeping Hot Items.
Screen-based	Reducing the usage of screen based appliances like Computer, television etc.
Lighting	**Did you know, switching off a device from the source at plug reduces consumption of electricity by an average of 10% Use when there is need using only LED bulbs.

4. Choose two ways that you will reduce your energy bill by 10. %

→ Using Solar pannels.

→ [illegible] of High Power Consuming appliances

CONDUCT SIMILAR STUDY AFTER IMPLEMENTING THE ENERGY CONSERVATION MEASURES AND MONITOR HOW MUCH IS THE SAVING.

5. Comparing electricity bills before and after your energy conservation efforts:

Before:	₹ 812
After one month:	₹ 626
Total money saved:	₹ 186

TOTAL ENERGY SAVINGS FOR THE WARD / VILLAGE AND ALSO REDUCTION IN CARBON EMISSIONS MAY BE CALCULATED AND SUBMITTED TO THE FACULTY MENTOR / WARD / VILLAGE SECRETARY.

THE SAME CAN BE SUBMITTED IN THE FORMAT OF COMMUNITY SERVICE PROJECT AT COLLEGE

BOARD FOR COMMUNITY DEVELOPMENT *through* EDUCATION
GOVERNMENT OF ANDHRA PRADESH
2nd floor, Neeladri Towers, Sri Ram Nagar, 6th Battalion Road, Atmakur (V), Mangalagiri (M),
Guntur Dt. A.P.– 522 503, E-mail: secretarybcd2021@gmail.com; Mobile: 9440285609

ELECTRICAL ENERGY - SAVING TIPS

(Source: BEE India)

LIGHTING SYSTEM

1. One of the best energy-saving devices in lighting is the switch. Turn off lights when not required.
2. Efficient Fluorescent tube lights such as T5, CFLs and LEDs are much more efficient than incandescent bulbs and can save about 60-80% of electricity for the same lighting levels.
3. Electronic ballasts can reduce power consumption by 20%.
4. Consider employing infrared sensors, motion sensors, automatic timers, dimmers and photocells switches wherever applicable for efficient use. Use outdoor lights with timers or photocells so that they turn off automatically in day light and avoid using curtains during the day.
5. Use task lighting, which focuses light where it is needed. A reading lamp, for example, lights only reading material rather than the whole room.
6. Dirty tube lights and bulbs deliver less light and can absorb about 50 percent of the light; dust tube lights and lamps regularly.
7. Look for BEE rating on the Tubular Fluorescent Lamps.
8. Use artificial lighting only when there is inadequate natural light in a space.
9. Don't replace tube lights (line source) which light over a larger linear spread with a bulb (point source) that emits light from a single point.
10. Don't use dark-colored surface in workrooms. These reduce the reflected light levels and increase the number of lamps required to illuminate the space.
11. Children are advised to study in one room and with individual table lamps and advise them to switch off the individual lamps when not required. Children to utilize morning hours & broad day light for studies rather than using artificial light.
12. Switch off alternate tube Lights/lamps in common areas and staircases during late hours in the night.
13. Please note, a 'Zero Watt' incandescent bulb uses about 10 to 15 watt while an LED bulb of 9 watt can provide light output equivalent to 60 watt incandescent bulb.

CEILING FAN

1. Replace conventional regulators with electronic regulators for ceiling fans.
2. Height of the fan relative to the ceiling. If fan is too close to the ceiling, the airflow is restricted; that is, the fan will not be able to draw as much air through its blade as it has the potential to do. For this reason, 'Hugger' style fans (those which mounted directly to the ceiling without the use of down rod) are all inherently disadvantaged. The distance that a fan should be mounted form the ceiling is directly correlated with its air moving potential; no fan should be mounted with its blade closer than 24 inches to the ceiling.
3. Pitch of the fan's blades. The angle at which the fan's blades tilted relative to X axis is referred to as the blade pitch. The steeper the pitch, the greater the air flow. Since increased pitch also means increased drag, only fans with well-made motors can support steep pitches. Cheaply made fans typically have a pitch between 9 and 13 degrees.

AIR CONDITIONER

1. Use BEE star labeled products.
2. Use ceiling or table fan as first line of defense against summer heat. Ceiling fans, for instance, cost about 3 rupees an hour to operate – much less than air conditions (Rs.100 per hour).
3. One will use 3 to 5 per cent less energy for each degree air conditioner is set above 22°C (71.5°F), so far set the thermostat of room air conditioner at 25°C (77°F) to provide the most comfort at the least cost.
4. Reduce air-conditioning energy use by as much as 40 per cent by shading your home as windows and walls. Plant trees and shrubs, to keep the day's hottest sun off your house.
5. Using ceiling or room fans allows you to set the thermostat higher because the air movement will cool the

room.

6. A good air conditioner will cool and dehumidify a room in about 30 minutes, so use a timer and leave the unit off for some time.
7. Clean the air-conditioner filter every month. A dirty air filter reduces airflow and may damage the unit. Clean filters enable the unit to cool down quickly and use less energy.
8. Have your air conditioning unit checked every 6 months. If the Freon level is not correct, you will waste a lot of energy and your home will never be as cool as you want it.
9. The gaps around the windows and doors leads to A C loss. You can use a candle to look for drafts. It the flame flickers or dances, found the place to seal.
10. Draperies on windows help reduce energy loss.
11. Use electronic devices with occupancy sensors which switch on or off automatically by sensing if the room is occupied.
12. Switch to evaporative coolers from air conditioners during hot/dry summer months.
13. Buy split ACs instead of window ACs. They cost more, but they are more energy efficient and consume lesser electricity.
14. Do not install AC units on the west and south walls as these are exposed to direct sunlight through a major part of the day during summers.
15. Do not apply dark colors on the external surfaces (roof and walls) of the house. Dark colors absorb more heat than light colors, leading to increased use of the AC.
16. Ensure that the condenser of the unit must have enough space around it for air to circulate and help the refrigerant dissipate its heat easily.

REFRIGERATOR

1. Use BEE star labelled products.
2. Keep your refrigerator and freezer at the right temperature. If they are only 2-3 degrees colder than necessary, energy consumption may go up by approx 25%.
3. Make sure the door is sealed tightly. When it's dark, place a lit flashlight inside the refrigerator and close the door. If light around the door is seen, the seals need to be replaced.
4. Make sure that the refrigerator is not place against outside facing wall or walls exposed to the direct sunlight.
5. Refrigerator motors and compressors generate heat, so allow enough space for continuous airflow around refrigerator. If the heat can't escape, the refrigerator's cooling system will work harder and use more energy.
6. Do no put uncovered liquids in the refrigerator. The liquids give off vapors that add to the compressor workload.
7. Allow hot food to cool off before putting it in the refrigerator.
8. Think about what you need before opening refrigerator door. You'll reduce the amount of time the door remains open.
9. Make sure that refrigerator's rubber door seals are clean and tight. They should hold a slip of paper snugly. If paper slips out easily, replace the door seals.
10. When dust builds up on refrigerator's condenser coils, the motor works harder and uses more electricity. Clean the coils regularly to make sure that air can circulate freely.
11. Defrost freezer compartment regularly for a manual defrost refrigerator.
12. Make sure that you are using a refrigerator that is approximately sized for your needs. If your fridge is too small, you may be overworking. If it is too large, then you are potentially wasting energy and home space.

OVENS / MICROWAVE OVEN

1. Microwaves use around 50% less energy than conventional ovens: they are most efficient for small portions or defrosting.
2. Check the seal on your oven door to see if there are cracks or tears in it.
3. Develop the habit of 'lids-on' cooking to permit lower temperature settings.
4. Carefully measure water used for cooking to avoid having to heat more than is needed.
5. Begin cooking on highest heat until liquid begins to boil. Then lower the heat control settings and allow food

6. Rearrange oven shelves before turning your oven on and don't peep at food in the oven! Every time you open the oven door, 4°-5° is lost
7. When preheating an oven for baking, time the preheat period carefully. Five to eight minutes should be sufficient.
8. For large items, stove-top cooking is most efficient, especially with gas.
9. For large items, stove-top cooking is most efficient, especially with gas.

WASHING MACHINES

1. Washing machines can account for as much as 20% of the electricity you use.
2. Use Cold water, as almost 90% of the energy consumed by washing machines goes to heating the water. Set the washing machine temperature to cold or warm and the rinse temperature to cold as often as possible.
3. Each was cycle uses up to 60 to 90 liters of water. Use washing machine on full load and plan washing periodicity to save on water too.
4. Adding too much detergent actually hampers effective washing action and may require more energy in the form of extra rinses.
5. Wash only full loads of clothing-but do not overload machine. Sort laundry and schedule washes so that a complete job can be done with a few cycles of the machine carrying its full capacity, rather than a greater number of cycle with light loads.
6. Soak or pre-wash the cloths for effective cleaning.

COOKING

1. Organized cooking activity can save about 20% Energy.
2. Use right quantity of water required for cooking and reduce gas / kerosene usage by 65%.
3. Cook on low flame as far as possible and save 6 to 10% energy.
4. The pressure cooker should be loaded 2/3rd of the foodstuff is solid & hard and Â½ if loaded with liquid. Properly used pressure cookers can save up to 50 to 75% of energy as well as time.
5. Cook your food in solar cooker and save cost of 2 LPG Cylinders annually.
6. When cooking on a gas burner, use moderate flame settings to conserve LPG.
7. Remember that a blue flame means your gas stove is operating efficiently.
8. Yellowish flame is an indicator at the burner need cleaning.
9. Use pressure cooker as much as possible.
10. Use lids to cover the pans while cooking.
11. Bring items taken out of refrigerators (like vegetables, milk etc) to room temperature before placing on the gas stove for heating.

GEYSER / WATER HEATER

1. Install Solar Water Heating System.
2. By reducing the temperature setting of water heater from 60 degrees to 50 degrees C, one could save over 18 percent of the energy used at the higher setting.
3. To help reduce heat loss, always insulate hot water pipes, especially where they run through unheated areas. Never insulate plastic pipes.
4. A dripping faucet wastes water and if it's dripping hot water, its wasting energy too. Often requiring nothing more then a new washer, fixing leaks is one of the quickest and least expensive ways of reducing the energy and water bills.
5. Another way to reduce waste is to take showers or baths depending on which uses less hot water the baths, other way baths use more. They are both right. Which is correct for you depends on how long and ho your showers are and how deep deep and warm your baths are.
6. Using less hot water may be easier than you think. Water conserving shower heads and faucet aerators ca cut hot water use inn half.. To see if this will work for you, first determine what your faucet and shower flo rates are now.

for your home, you need to consider family size and whether your usag your family size, so all you have t

COMPUTER

1. Computer that runs 24 hours a day, for instance, used-more power than an energy efficient refrigerator.
2. Screen savers save computer screens, not energy. Start-ups and shutdown do not use any extra energy, nor are they hard on your computer components. In fact, shutting computers down when you are finished using them actually reduces system wear and saves energy.
3. Purchase flat-screen LCD monitors.
4. Setting computers, monitors and copiers to sleep-mode when not in use helps cut energy costs by approximately 40%
5. Activate and standardize 'power down' on new and existing PCs
6. If your computer must be left on, turn off the monitor; this device alone uses more than half the system's energy.

--- Compiled by
Prof. M.L.S.Deva Kumar, JNTUA Ananthapuramu

ANDHRA PRADESH
STATE COUNCIL OF HIGHER EDUCATION

(A Statuory Body of the Government of Andhra Pradesh)

2nd, 3rd, 4th and 5th floors, Neeladri Towers, Sri Ram Nagar, 6th Battalion Road
Atmakur (V)Mangalagiri (M), Guntur, Andhra Pradesh, Pin - 522 503

COMMUNITY SERVICE PROJECT

Designed & Developed by

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

(A STATUTORY BODY OF GOVERNMENT OF ANDHRA PRADESH)

DVR & Dr. HS
MIC College of Technology
ISO 9001:2015 Certified Institute
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AUTONOMOUS
Accredited by NAAC With Grade A

PROGRAM BOOK
FOR
COMMUNITY SERVICE PROJECT

Name of the Student: G. Aravind kumar, M. charan, P.D.V. Ramana

Name of the College: D.V.R & Dr. H.S MIC college of Technology

Registration Number: 21H75A0303, 21H75A0309, 21H75A0312

Period of CSP: 6-weeks **From:** 30/7/2022 **To:** 13/08/2022

From: 09/01/23 **To:** 31/01/2023

Name & Address of the Community/ Habitation:

Ibrahimpatnam, kondapalli Municipality, NTR, District

JNTU - KAKINADA

YEAR: 2022 - 2023

Instructions to Students for Community Service Project

Please read the detailed Guidelines on Community Service Project hosted onthe website of AP State Council of Higher Education https://apsche.ap.gov.in

Link: https://apsche.ap.gov.in/Pdf/Guidelines%20for%20the%20OJT%20Internship%20Community%20Service%20Project.pdf

1. It is mandatory for all the students to complete 180 hours of Community Service Project as a part of the internship/on the job training.
2. Consider yourself a committed volunteer in the community, you work with.
3. Every student should identify the village/community/habitation for Community Service Project (CSP) in consultation with the College Principal/the authorized person nominated by the Principal.
4. Report to the community/habitation as per the schedule given by the College. You must make your own arrangements for transportation to reach the community/habitation.
5. You will be assigned a Faculty Guide from your College. He/She will be creating a WhatsApp group with your fellow volunteers. Post your daily activity done and/or any difficulty you encounter during the programme.
6. You should maintain punctuality in attending the CSP. Daily attendance is compulsory.
7. You are expected to learn about the community/habitation and their problems.
8. Know the leaders and the officials of the community/habitation.
9. While in the project, always wear your College Identity Card.
10. If your College has a prescribed dress as uniform, wear the uniform daily.
11. Identify at least five learning objectives in consultation with yourFaculty Guide. These learning objectives can address:
    - Information about the community, including the realities and problems of the society.
    - Need for creating awareness on socially relevant aspects/programs.
    - Acquiring specific Life Skills.
    - Learning areas of application of knowledge and technologies related to your discipline.
    - Identifying developmental needs of the community/habitation.

12. Practice professional communication skills with team members, and with the leaders and officials of the community. This includes expressing thoughts and ideas effectively through oral, written, and non-verbal communication, and utilizing listening skills.

13. **Be regular in filling up your Program Book. It shall be filled up in your own handwriting. Add additional sheets wherever necessary.**

14. At the end of Community Service Project, you shall be evaluated by the person in-charge of the community/habitation to whom you report to.

15. There shall also be an evaluation at the end of the community service bythe Faculty Guide and the Principal.

16. Do not indulge in any political activities.

17. Ensure that you do not cause any disturbance to the inhabitants or households during your interaction or collection of data.

18. Be cordial but not too intimate with the people you come across during your service activities.

19. You should understand that during this activity, you are the ambassador of your College, and your behavior during the community service programme is of utmost importance.

20. If you are involved in any discipline related issues, you will be withdrawn from the programme immediately and disciplinary action shall be initiated.

21. Do not forget to keep up your family pride and prestige of your College.

22. Remember that you are rendering valuable service to the society and your role in the community development will become part of the history of the community.

Community Service Project Report

Submitted in accordance with the requirement for the degree of....B.Tech

Name of the College: D.V.R & Dr. H.S MIC college of Technology

Department: Mechanical Engineering

Name of the Faculty Guide: K. Madhuri

Duration of the CSP: 6-weeks From: 09/01/23 To: 23/01/23

Name of the Student: G. Aravind kumar, M. Charan, P.D.V. Ramana

Programme of Study: B-Tech

Year of Study: III - year

Register Number: 21H71A0303, 21H71A0309, 21H71A0312

Date of Submission:

Student's Declaration

I/We G Aravindkumar, M.charan, P.D.V Ramana, a student of B.Tech Program, Reg. No. 21HP5A0303, 309, 312 of the Department of Mechanical Engineering D.V.R & D.R.H.S MIC College of Technology College do hereby declare that I have completed the mandatory community service from 09/01/23 to 23/01/23 in Kondapalli *(Name of the Community/ Habitation)* under the Faculty Guideship of K. Madhuri, *(Name of the Faculty Guide)*, Department of Mechanical Engineering in D.V.R & D.R.H.S MIC College of Technology College.

G. Aravind kumar
M. Charan.
(Signature and Date)

Endorsements

CSP- Faculty Guide

Head of the Department
Dept. of Mechanical Engg.
DVR & DRHS MIC College of Technology
Kanchikacherla, Krishna Dt.
Andhra Pradesh, India - Pin: 521180.
Head of the Department

10/2/23
Principal

Certificate from
Official of the Community

This is to certify that G. Aravind Kumar, M. Charan, P.V. Ramana (*Name of the Community Service Volunteer*) Reg. No 21H17SA0303, 309, 312 of DVR & Dr. H.S MIC college of Technology (Name of the College) underwent community service in Modernization of water supply (*Name of the Community*) from 30/7/2022 to 13/08/2022 (Phase-I) and from 09/01/23 to 23/01/23 (Phase-II). The overall performance of the Community Service Volunteer during his/her community service is found to be Good (*Satisfactory/Good*).

Panchayat Secretary Gr. VI
(Digital Assistant), Code :10690720
Kondapalli Sachivalayam - 3
Kondapalli (M), Krishna (Dt) - 521228, A.P

Authorized Signatory with Date and Seal

Acknowledgements

We wish to express our sincere gratitude to our esteemed guide K. Madhuri for his valuable guidance, encouragement and gracious support throughout the work. His valuable suggestions, effusive co-ordination and encouraging interactions were a great driving once for us to carry out this Community Service Project.

We are grateful to Dr. D.V Siva Reddy Head of the Mechnical Engineering Department, for his support and permitting us to take up our project work and to complete the project successfully.

We express our sincere thanks to Dr. K. Srinivas Principal, DVR & Dr. HS MIC College of Technology, Kanchikacherla.

We are also thankful to G. Navecna official of the community, who gives support to us during this work and others who assisted us in this community project work.

G. Aravind kumar
M. Charan
Project Members

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CHAPTER-1

Executive Summary

In the urban area the physical infrastructure plays an important role in water distribution system the water supplied from the reservoir to the consumer end. The pattern of the pipeline will follow the road network of the area. Due to rapid urbanization in an urban area. the water demand is rapidly increasing. Therefore the pressure on the existing network is growing. This may result in the gap between supply and consumer chain the different manner. lead detection plays a significant role in the different in the sufficient management of water distribution system. (WDS) as it is help in reducing water wastage By applying modern tools in the system the existing problem will be minimised and give one step ahead for the making of the smart city.

CHAPTER-2

Overview of the Community

Today urban india facing serious problems of the safe drinking water shortage indegrate sanitation, and limited resources due to rapid growth of population & unmanaged planning. Therefore needs to pay attention towards water supply & sanitation as these affect quality of life & economy growth of the nation. This section briefing background study based on literature, research papers & case study.

Payas Lungariya et al (2016) observed that pipe failure in system disrupted the water supply to the consumer and reduced the reliability of the system. Therefore inspection, control, maintaince and rehabilation program of the existing system is required to operate properly. By EPANET software this analysis of pressure and elevation and multiple nodes and head loss of each pipe is carried out (Payas Lungariya 2016)

CHAPTER-3

Community Service Part

The main concentration is to modernize the existing water distribution system. Due to this loss of water in the system. User may be suffer. To detect that is loss is very important for the sufficient supply so by applying modern tools and equipments the system may work more efficiently. By using water grid the operation of the system will be so tracked easily by the software. There are so many different type of tools is used for the water distribution systems that included is different literature but as compared to others water grid is more accurate.

CHAPTER-4

ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	observed water transmission through pipe lines.	we learned about how the water supplied from river to rural places.	G. Naveena
Day - 2	we observed water storage tanks	we learned about how the river water is stored in tanks	G. Naveena
Day - 3	we observed water pipe lines from river to storage tank.	we learned about valves.	G. Naveena
Day - 4	we observed the leackages of pipeline.	we learned about leackages of pipelines.	G. Naveena
Day - 5	we observed the filtering of water	we learned about how the water is filtered.	G. Naveena
Day - 6	we observed the storage tank which is stored by filter water	we learned about how the filter water is stored.	G. Naveena

Panchayat Secretary (Digital Assistant), Code :10690 Kondapalli Sachivalayam - Ibrahimpatnam(M), Krishna (Dt)-521

WEEKLY REPORT

WEEK – 1 (From Dt..30/07/22 to Dt 05/08/22)

Objective of the Activity Done: Water Transmission To pipes

Detailed Report: The distribution pipe lines are generally laid below the road pavements, and their layouts generally follow the layouts of roads. There are four different types of pipe networks. They are

- Dead end system
- Grid iron system
- Ring system
- Radial system

Distribution Reservoirs are called as service reservoirs, are the storage reservoirs, which store the treated water for supplying water during emergencies such as during fire, repairs etc. and also help to in absorbing the hourly fluctuations in the normal water demand.

Types of Reservoirs

- underground Reservoirs
- Small ground level reservoirs
- large ground level reservoirs
- overhead tanks.

ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	We observed that main storage tank to rural area tanks	We learned about supply of water to rural area tank	G. Naveena Panchayat Secretary (Digital Assistant), Code :10690 Kondapalli Sachivalayam Ibrahimpatnam(M), Krishna (Dt)-521
Day - 2	We observed that supply of water from rural area tank to taps and house holds	We learned about water supply to house hold.	G. Naveena Panchayat Secretary (Digital Assistant), Code :10 Kondapalli Sachivalayam Ibrahimpatnam(M), Krishna (Dt)
Day – 3	We observed that water supply to irrigation	We learned about water supply to irrigation	G. Naveena Panchayat Secretary (Digital Assistant), Code :1 Kondapalli Sachivalaya Ibrahimpatnam(M), Krishna (Dt)
Day – 4	We observed that type of valves is used in irrigation	We learned about types of valves used in irrigation	G. Naveena Panchayat Secretary (Digital Assistant), Code :10 Kondapalli Sachivalayam Ibrahimpatnam(M), Krishna (Dt)
Day – 5	We observed that types of pumps used in irrigation	We learned that types of pumps used in irrigation	G. Naveena Panchayat Secretary (Digital Assistant), Code :1 Kondapalli Sachivalaya Ibrahimpatnam(M), Krishna (Dt)
Day –6	We observed that water supply to hill range.	We learned that water supply to hill range.	G. Naveena Panchayat Secretary (Digital Assistant), Code :1 Kondapalli

WEEKLY REPORT

WEEK – 2 (From Dt. 6/08/22 to Dt. 12/08/22)

Objective of the Activity Done: Water Storage tanks

Detailed Report: Water distribution System is hydraulic infrastructure that consists of different elements like pipes valves, pumps tanks and Reservoirs. This infrastructure helps to convey water from the source to the consumers. Designing and operation a water distribution system is the most important consideration for a life time for expected loading conditions. Further water distribution system must be able to assist the abnormal conditions such as pipe breackage, mechanical failure of pipes, valves and control systems. power outages and infrastructure demand projections.

ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	we observed that main storage tank to rural area tanks	we learned about supply of water to rural area tank.	G. Naveena
Day - 2	we observed that supply of water from rural area tank to taps and house holds	we learned about water supply to house hold	G. Naveena
Day - 3	we observed that water supply of irrigation	we learned about water supply to irrigation	G. Naveena
Day - 4	we observed that type of valves is used in irrigation	we learned about types of valves used in irrigation	G. Naveena
Day - 5	we observed that types of pumps used in irrigation	we learned that types of pumps used in irrigation	G. Naveena
Day - 6	we observed that water supply to hill range	we learned that water supply to hill range.	G. Naveena

Panchayat Secretary G
(Digital Assistant), Code :10690
Kondapalli Sachivalayam -
Ibrahimpatnam(M), Krishna (Dt)-521

WEEKLY REPORT

WEEK – 3 (From Dt..09/01/25 to Dt ..15/01/25)

Objective of the Activity Done: water supply to three hold purposes

Detailed Report:

The purpose of water distribution system to deliver water to consumer with appropriate quality, quantity and pressure. water distribution system is used to describe collectively the facilities is used to supply water from its source to the point of usage. The flow of the water from source to consumer is given below mapping. The objective of this study to generate thematic map.

ACTIVITY LOG FOR THE FORTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	We observed that main storage tank to rural area tanks	We learned about supply not water to rural area tank	G. Naveena
Day - 2	We observed that supply of water from rural area tank to taps house holds	We learned about water supply to house hold	G. Naveena
Day – 3	We observed that water supply of irrigation	We learned about water supply to irrigation	G. Naveena
Day – 4	We observed that type of valves is used in irrigation	We learned about water supply type of valves used in irrigation	G. Naveena
Day – 5	We observed that type of pumps used in irrigation	We learned about type of pumps used in irrigation	G. Naveena
Day –6	We observed that water supply to hill range	We learned that water supply to hill range	G. Naveena

Panchayat Secretary
(Digital Assistant), Code :106907
Kondapalli Sachivalayam
Ibrahimpatnam(M), Krishna (Dt)-521

WEEKLY REPORT

WEEK – 4 (From Dt..16/01/23.. to Dt ..20/01/23.)

Objective of the Activity Done: water pipe line from Reservoir storage tank.

Detailed Report:

Discussed that for a smart, sustainable city the following component should be in the city like smart pipe network, Smart metering, GIS mapping Communication modems, SCADA and web-based Communication. By computing smart technology with existing city, the smart service is applied to the city and the makes the city smarter. if water distribution models are prepared by the use water GEMS with irrigation for GIS. then optimized design and process scheduling loss estimation, SCADA integration and network simplification is applicable.

ACTIVITY LOG FOR THE FIFTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	We observed that main storage tank to rural area tank	We learned about water supply to rural area tank.	G. Noureena
Day - 2	We observed that supply not water from rural areas tanks to taps house holds	We learned about water supply to house holds	G. Noureena
Day – 3	We observed that water supply of irrigation	We learned about water supply to irrigation	G. Noureena
Day – 4	We observed that type of valves is used in irrigation	We learned about water supply type of valves used in irrigation	G. Noureena
Day – 5	We observed that type of pumps used in irrigation	We learned about type of pumps used in irrigation	G. Noureena
Day –6	We observed that type of hill range.	We learned about to water supply to hill range	G. Noureena

Panchayat Secretary (Digital Assistant), Code:106 Kondapalli Sachivalayam Ibrahimpatnam(M), Krishna (Dt)

WEEKLY REPORT

WEEK – 5 (From Dt..9/01/23.. to Dt..15/01/23.)

Objective of the Activity Done: Types of valves and pipes used in irrigation

Detailed Report:

Developed a wireless sensor to network enable to real time monitoring of water quality parameter and hydraulic in extensive urban water distribution system for future demand forecasting online predictor-corrector (pc) procedure is used. To estimate the future hydraulic state statical data-driven algorithm is applied. The water-wise wireless sensor network predicts the data that were corrected by an evolutionary optimization technique. in this paper a predictor corrector (pc) model was presented and demonstrated for on-line hydraulic state prediction in singapore.

ACTIVITY LOG FOR THE SIXTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	We observed that main storage tank to rural area tank	We learned about supply of water to rural area tank.	G. Naveena
Day - 2	We observed that supply of water from rural area tanks & pipes have holds	We learned about to supply of water to have hold	G. Naveena
Day – 3	We observed that type of valves supply of irrigation	We learned about type of valves is used in irrigation	G. Naveena
Day – 4	We observed that type of pumps used in irrigation	We learned about type of pumps used in irrigation	G. Naveena
Day – 5	We observed that water supply valves used in irrigation	We learned about to water supply used in irrigation	G. Naveena
Day –6	We observed that water to supply in hill range	We learned about to water supply to hill range	G. Naveena

Panchayat Secretary (Digital Assistant), Code: 103 Kondapalli Sachivalayam Ibrahimpatnam(M), Krishna (Dt)

WEEKLY REPORT

WEEK – 6 (From Dt. 16/09/23 to Dt. 22/09/23)

Objective of the Activity Done: Water supply to hill range

Detailed Report:

All the major rivers of the world have their headwaters in highlands and more than half of humanity relies on the fresh water that accumulates in mountain areas. Although they constitute a relatively small proportion of river basins, most of river flow downstream originates in mountains the proportion depending on the season. These water towers are crucial to the welfare of humankind. As demand grows, the potential for conflict over the use of mountain water increases. Control management of the source of water as well as of the resources themselves must therefore become a global priority in a world moving towards a water crisis in the next century.

CHAPTER-5

Outcomes Description

The main concentration is to modernize the existing water distribution system. Due to the loss of water in the system. User may be suffer. To detect that is low very important for the sufficient supply. So by applying modern tools and equipments the system may arrive more efficiently. By using water GIS the question of the system will be so easy if some problem is asked then it can be tracked easily by the software. There are so many different type of tools used for the water distribution system that mentioned in different literature but as compared to others water GIS is more accurate.

CHAPTER-6

Recommendations and Conclusions

The main concentration is to modernize the existing water distribution system. Due to the loss of water in the system, there may be suffer to detailed that is loss is very important for the sufficient of water networks so by applying modern tools and equipments and intelligence to American water distribution system may work more efficiently. By using systems water here the operation of the system will be easy and if some problem is noted then that it can be water distributing system is routine water tracked easily by the software. There are summary quality measurement of system that includes that different type of tools and equipments used for the water distribution system.

CHAPTER-7

Student Self-Evaluation for the Community Service Project

Student Name:	G. Aravind Kumar, M. Charan, P.D.V. Ramana
Registration No:	21A7A0Z03, 21A7CA039, 21A7A0Z02
Period of CSP:	
Date of Evaluation:	

Please rate your performance in the following areas:

Rating Scale: **Letter grade of CGPA calculation to be provided**

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Proactiveness	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

G. Aravind Kumar
M. Charan.

Date:

Signature of the Student

CHAPTER-8

Evaluation by the Person in-charge in the Community / Habitation

Student Name: G. Aravind Kumar, M. Charan, P.D.V. Ramana

Registration No: 21H75A0303, 21H75A0309, 21H75A0312

Period of CSP:

Date of Evaluation:

Name of the Person in-charge:
Address with mobile number:

Please rate the student's performance in the following areas:

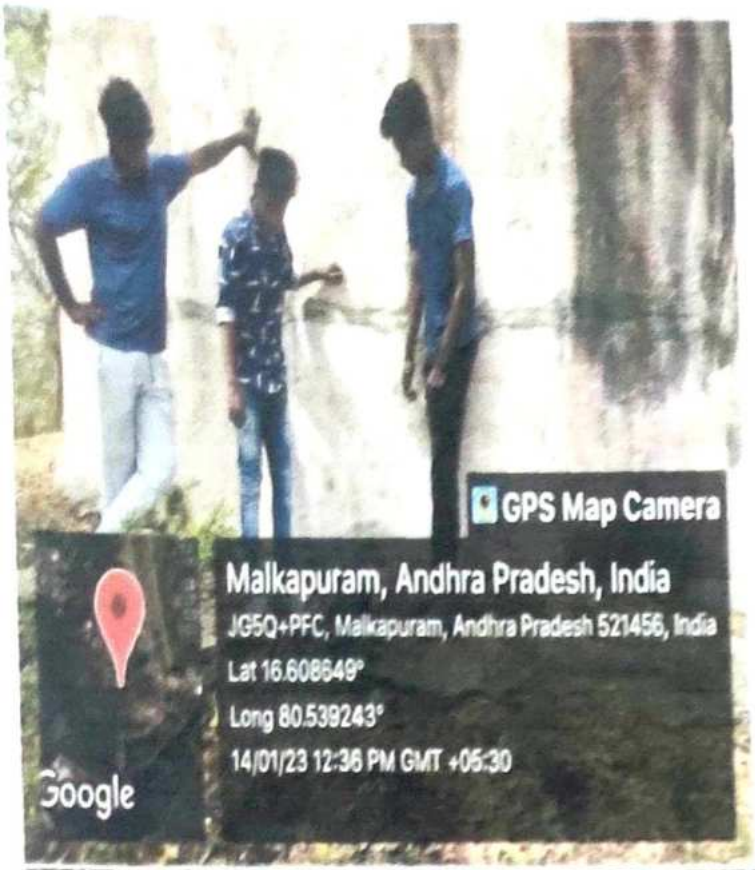
Please note that your evaluation shall be done independent of the Student's self-evaluation

Rating Scale: 1 is lowest and 5 is highest rank

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Proactiveness	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

Date:

Signature of the Supervisor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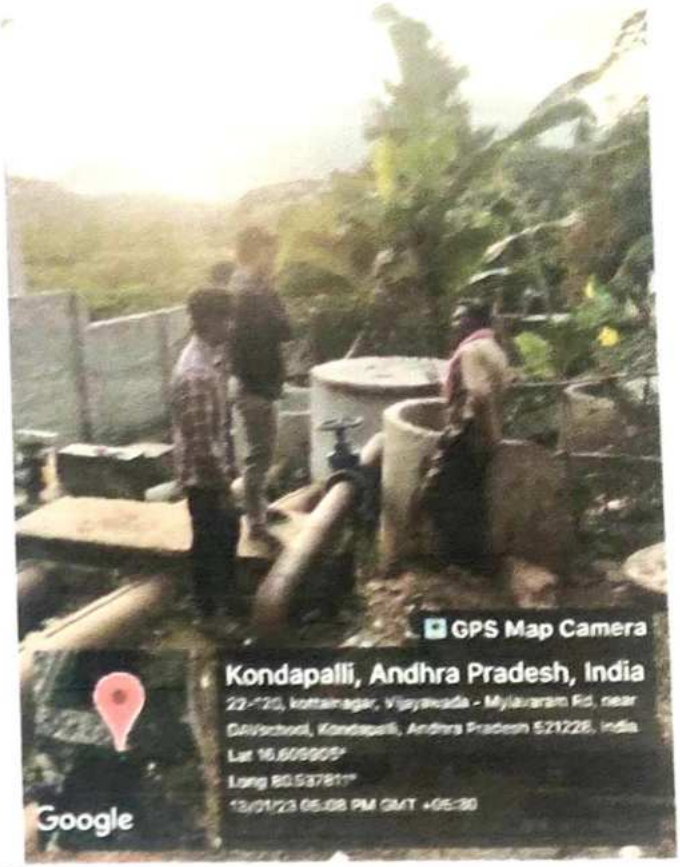
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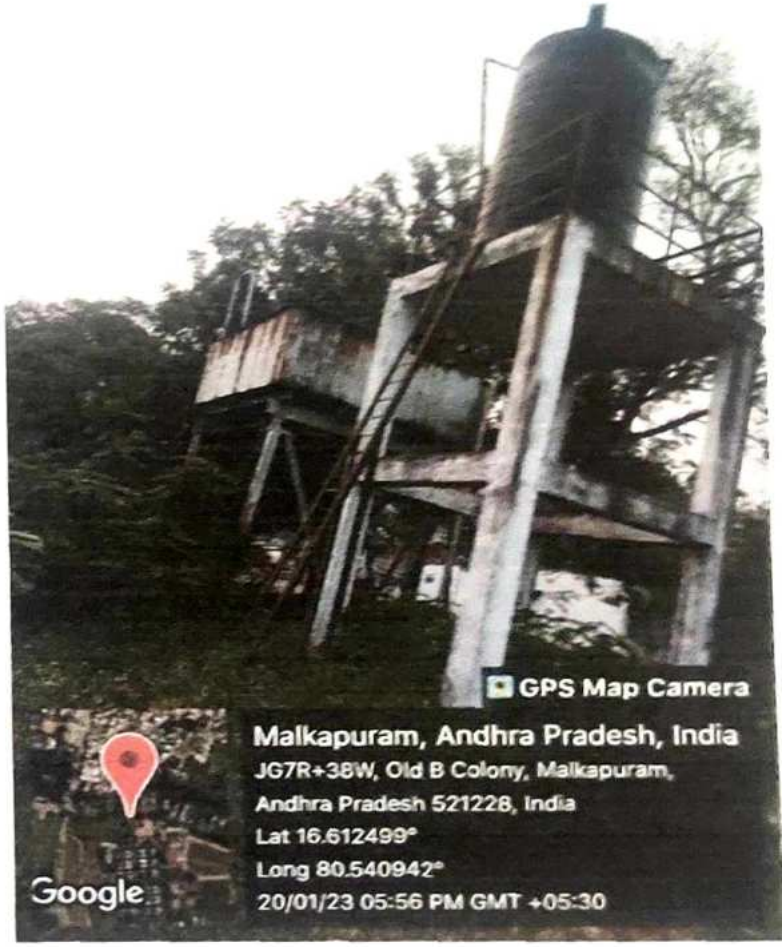
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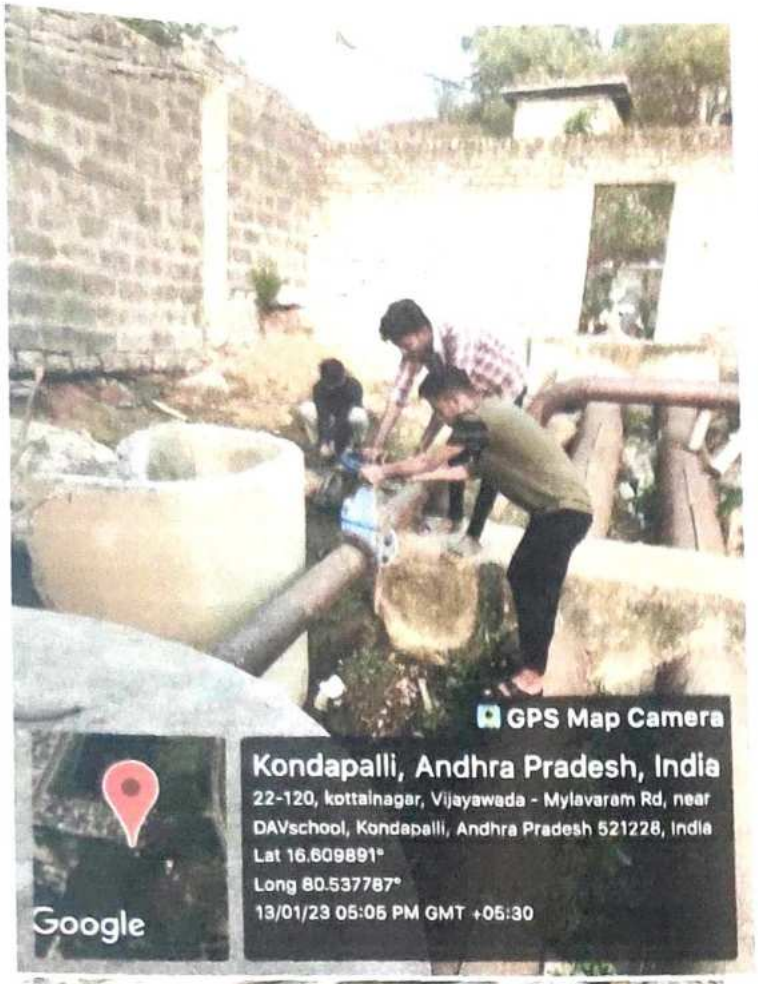
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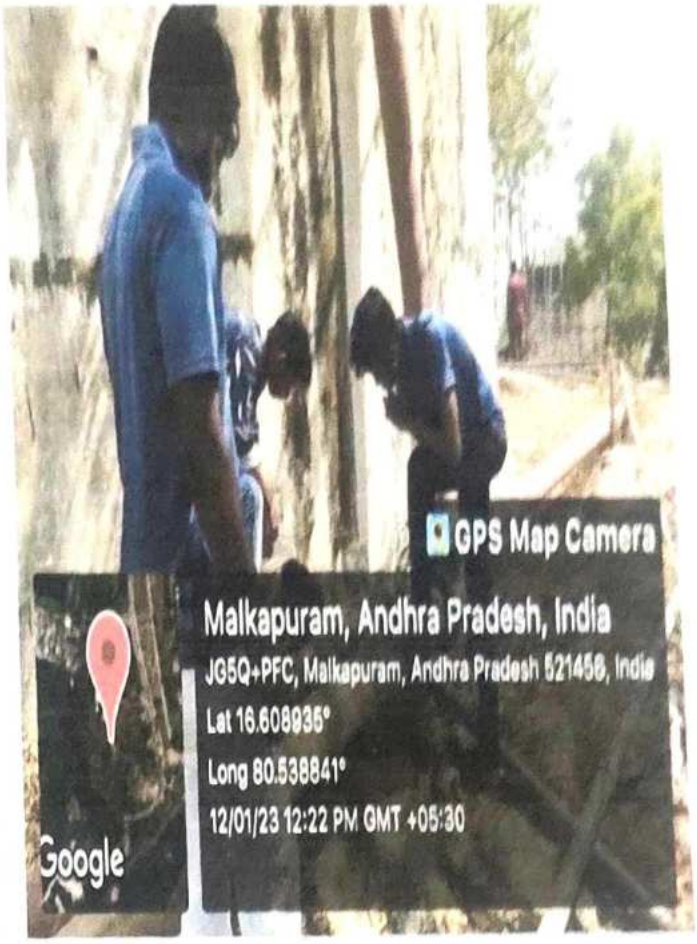
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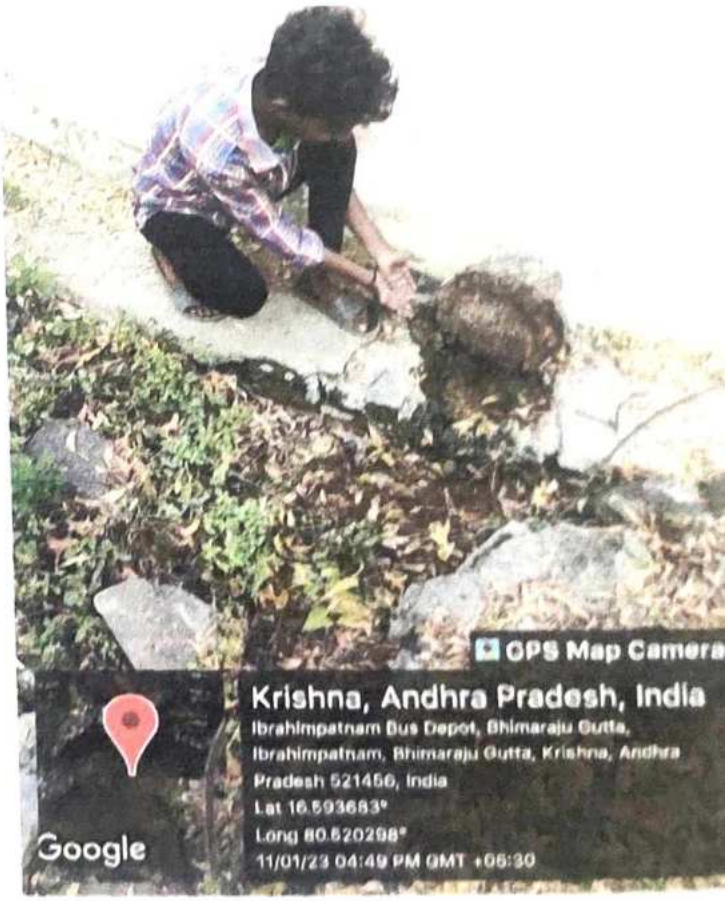
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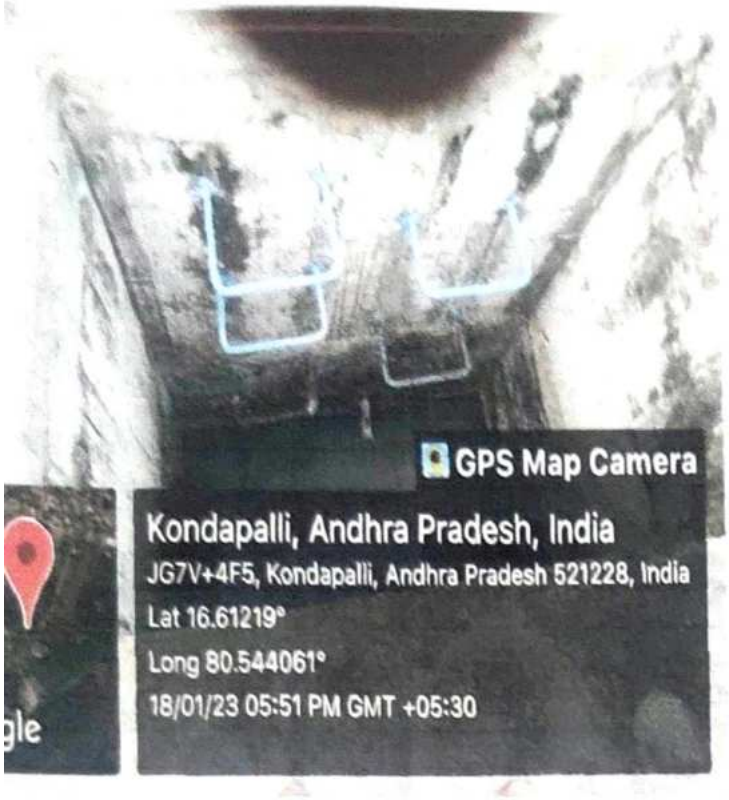
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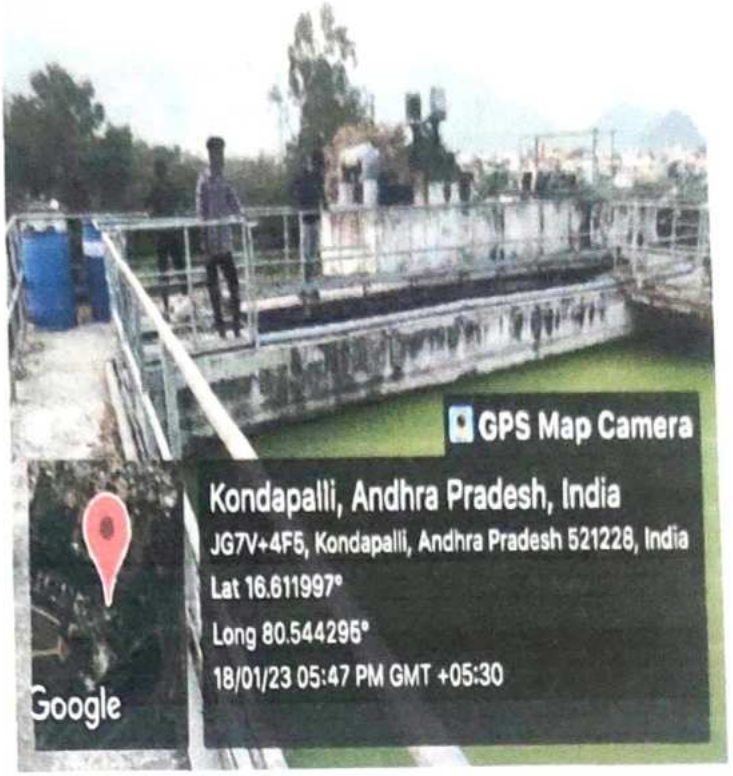
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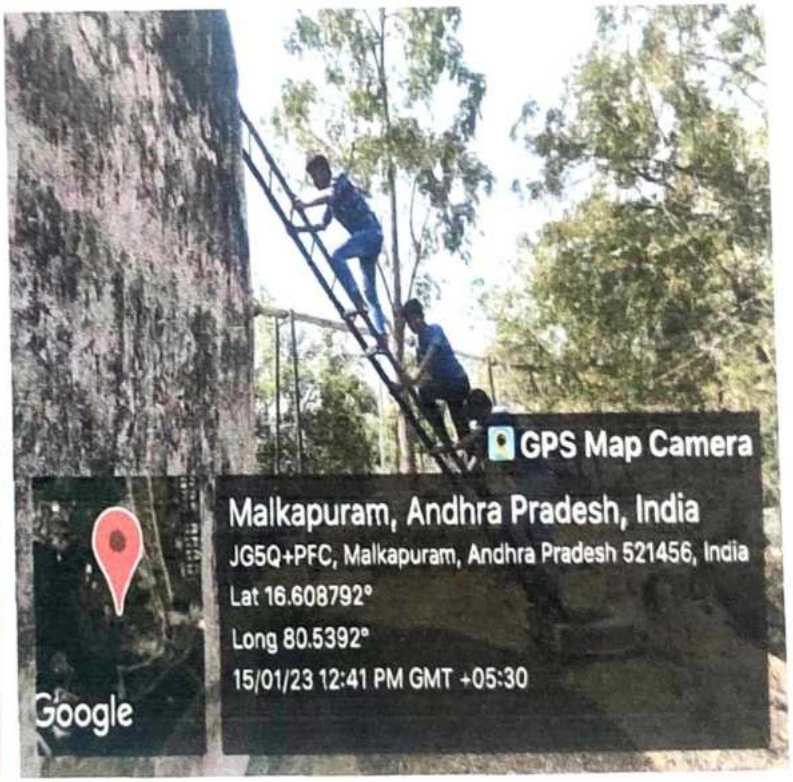
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BOARD FOR COMMUNITY DEVELOPMENT *through* EDUCATION
GOVERNMENT OF ANDHRA PRADESH
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HOME ENERGY AUDIT - WORKSHEET

OBJECTIVES:

To estimate Energy consumption for a house;

To understand peak energy consumption pattern;

To identify ways and means of Energy Conservation;

To propose action plan for Energy Conservation;

To measure the savings after implementation of Energy conservation tips.

INTRODUCTION:

Energy is an important commodity in this modern era. As the utility of energy is continuously increasing due to reasons like population growth, increase in usage of electrical equipment, mechanization, enhancement in comfort living requirements etc., The Energy production is not increasing to meet such peak increase in usage of Energy. It is leading to huge gap between Energy Demand and Supply. Hence it is every citizens responsibility to reduce the gap between energy demand and supply by conserving energy as much as possible. In order to implement energy conservation it is necessary to understand the consumption patterns and possible avenues of conservation. Energy Audit is one best way to achieve this.

An energy audit is a way to calculate how much energy being used at home. It will help the citizen to identify how much energy each home uses and where could be saving energy possible. It is the first step to making the home, the school or any other area more energy efficient.

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Activity 1: Calculate the Amps and energy used by all of these appliances in one day:

Equation for calculating energy:

- Energy (kWh) = (Power (watts) x time x number of appliances) ÷ 1000

Appliance	Power (W)	Number of appliances	Time used (hour)	Energy (kWh)
Ceiling Fan	**80W**	**2**	**5**	**(80 x 5x 2) ÷ 1000 = 0.8 kWh**
Desktop computer	300W	1	4	(300x1x4) /1000 = 1·2 kwh
LED bulb	10W	4	6	(10x4x6) /1000 = 0·24 kwh
Tube light	40W	2	5	(40x2x5) /1000 = 0·4 kwh
Television	200 W	1	4	(200x1x4) /1000 = 0·8 kwh
Washing Machine	320W	0	0	(320x0x0) /1000 = 0 kwh
Microwave	1400W	0	0	(1400x0x0) /1000 = 0 kwh
Refrigerator	2000W	1	8	(2000x1x8) /1000 = 16 kwh
Immersion Water Heater	1000W	0	0	(1000x0x0) /1000 = 0kwh
Geyser	3000W	0	0	(3000x0x0) /1000 0kwh

Activity 2: Questions

1. Which were the three appliances that used the most energy? What are they used for ?

Refrigerator, Television, Tubelight, These are used for cooling of vegetables, entertainment and for light

2. a) What was the total energy used by all of the appliances (tip – add up all of the energy (kWh) values):

18·64

*** Note – it is likely that your energy usage may be higher than the calculated value as you may have other appliances that are not included in this table. This worksheet provides an approximate value.**

18·64 kwh

b) Calculate how many kWh of energy are consumed on average in a month (tip - multiply your

total energy used by all appliances by the number of days in the month).

589.2 kwh is consumed on average in a month

c) **Check your electricity bill and compare it to the monthly energy usage that you calculated.**

Your total monthly energy usage from your calculation in 2(b)	589-2
Your total monthly energy usage from electricity bill	₹812

An average household in Mumbai city consumes 298kWh of electricity every month and releases about 244kgs of CO_2e (1kWh releases 0.82 kg CO_2e)

3. Write down ideas for reducing energy consumption for appliances in each category:

Device	Ideas to reduce energy
Example: Washing Machine	I could hand wash my clothes some days. Also, I could make sure my family runs bigger loads of washing so that we do not waste water.
Heating and cooling	For cooling, usage of refrigerator is reduced by not keeping hot items
Screen-based	Reducing the usage of screen based appliances like computer televisions etc.
Lighting	**Did you know, switching off a device from the source at plug reduces consumption of electricity by an average of 10% use when there is need using only LED bulbs

4. Choose two ways that you will reduce your energy bill by 10. %

→ using solar panels

→ less usage of high power consuming appliances

CONDUCT SIMILAR STUDY AFTER IMPLEMENTING THE ENERGY CONSERVATION MEASURES AND MONITOR HOW MUCH IS THE SAVING.

5. Comparing electricity bills before and after your energy conservation efforts:

Before:	₹ 812
After one month:	₹ 626
Total money saved:	₹ 186

TOTAL ENERGY SAVINGS FOR THE WARD / VILLAGE AND ALSO REDUCTION IN CARBON EMISSIONS MAY BE CALCULATED AND SUBMITTED TO THE FACULTY MENTOR / WARD / VILLAGE SECRETARY.

THE SAME CAN BE SUBMITTED IN THE FORMAT OF COMMUNITY SERVICE PROJECT AT COLLEGE

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ELECTRICAL ENERGY - SAVING TIPS

(Source: BEE India)

LIGHTING SYSTEM

1. One of the best energy-saving devices in lighting is the switch. Turn off lights when not required.
2. Efficient Fluorescent tube lights such as T5, CFLs and LEDs are much more efficient than incandescent bulbs and can save about 60-80% of electricity for the same lighting levels.
3. Electronic ballasts can reduce power consumption by 20%.
4. Consider employing infrared sensors, motion sensors, automatic timers, dimmers and photocells switches wherever applicable for efficient use. Use outdoor lights with timers or photocells so that they turn off automatically in day light and avoid using curtains during the day.
5. Use task lighting, which focuses light where it is needed. A reading lamp, for example, lights only reading material rather than the whole room.
6. Dirty tube lights and bulbs deliver less light and can absorb about 50 percent of the light; dust tube lights and lamps regularly.
7. Look for BEE rating on the Tubular Fluorescent Lamps.
8. Use artificial lighting only when there is inadequate natural light in a space.
9. Don't replace tube lights (line source) which light over a larger linear spread with a bulb (point source) that emits light from a single point.
10. Don't use dark-colored surface in workrooms. These reduce the reflected light levels and increase the number of lamps required to illuminate the space.
11. Children are advised to study in one room and with individual table lamps and advise them to switch off the individual lamps when not required. Children to utilize morning hours & broad day light for studies rather than using artificial light.
12. Switch off alternate tube Lights/lamps in common areas and staircases during late hours in the night.
13. Please note, a 'Zero Watt' incandescent bulb uses about 10 to 15 watt while an LED bulb of 9 watt can provide light output equivalent to 60 watt incandescent bulb.

CEILING FAN

1. Replace conventional regulators with electronic regulators for ceiling fans.
2. Height of the fan relative to the ceiling. If fan is too close to the ceiling, the airflow is restricted; that is, the fan will not be able to draw as much air through its blade as it has the potential to do. For this reason, 'Hugger' style fans (those which mounted directly to the ceiling without the use of down rod) are all inherently disadvantaged. The distance that a fan should be mounted form the ceiling is directly correlated with its air moving potential; no fan should be mounted with its blade closer than 24 inches to the ceiling.
3. Pitch of the fan's blades. The angle at which the fan's blades tilted relative to X axis is referred to as the blade pitch. The steeper the pitch, the greater the air flow.
   Since increased pitch also means increased drag, only fans with well-made motors can support steep pitches. Cheaply made fans typically have a pitch between 9 and 13 degrees.

AIR CONDITIONER

1. Use BEE star labeled products.
2. Use ceiling or table fan as first line of defense against summer heat. Ceiling fans, for instance, cost about 3 rupees an hour to operate – much less than air conditions (Rs.100 per hour).
3. One will use 3 to 5 per cent less energy for each degree air conditioner is set above 22°C (71.5°F), so far se the thermostat of room air conditioner at 25°C (77°F) to provide the most comfort at the least cost.
4. Reduce air-conditioning energy use by as much as 40 per cent by shading your home as windows and wall Plant trees and shrubs, to keep the day's hottest sun off your house.
5. Using ceiling or room fans allows you to set the thermostat higher because the air movement will cool th

room.

6. A good air conditioner will cool and dehumidify a room in about 30 minutes, so use a timer and leave the unit off for some time.
7. Clean the air-conditioner filter every month. A dirty air filter reduces airflow and may damage the unit. Clean filters enable the unit to cool down quickly and use less energy.
8. Have your air conditioning unit checked every 6 months. If the Freon level is not correct, you will waste a lot of energy and your home will never be as cool as you want it.
9. The gaps around the windows and doors leads to A C loss. You can use a candle to look for drafts. It the flame flickers or dances, found the place to seal.
10. Draperies on windows help reduce energy loss.
11. Use electronic devices with occupancy sensors which switch on or off automatically by sensing if the room is occupied.
12. Switch to evaporative coolers from air conditioners during hot/dry summer months.
13. Buy split ACs instead of window ACs. They cost more, but they are more energy efficient and consume lesser electricity.
14. Do not install AC units on the west and south walls as these are exposed to direct sunlight through a major part of the day during summers.
15. Do not apply dark colors on the external surfaces (roof and walls) of the house. Dark colors absorb more heat than light colors, leading to increased use of the AC.
16. Ensure that the condenser of the unit must have enough space around it for air to circulate and help the refrigerant dissipate its heat easily.

REFRIGERATOR

1. Use BEE star labelled products.
2. Keep your refrigerator and freezer at the right temperature. If they are only 2-3 degrees colder than necessary, energy consumption may go up by approx 25%.
3. Make sure the door is sealed tightly. When it's dark, place a lit flashlight inside the refrigerator and close the door. If light around the door is seen, the seals need to be replaced.
4. Make sure that the refrigerator is not place against outside facing wall or walls exposed to the direct sunlight.
5. Refrigerator motors and compressors generate heat, so allow enough space for continuous airflow around refrigerator. If the heat can't escape, the refrigerator's cooling system will work harder and use more energy.
6. Do no put uncovered liquids in the refrigerator. The liquids give off vapors that add to the compressor workload.
7. Allow hot food to cool off before putting it in the refrigerator.
8. Think about what you need before opening refrigerator door. You'll reduce the amount of time the door remains open.
9. Make sure that refrigerator's rubber door seals are clean and tight. They should hold a slip of paper snugly. If paper slips out easily, replace the door seals.
10. When dust builds up on refrigerator's condenser coils, the motor works harder and uses more electricity. Clean the coils regularly to make sure that air can circulate freely.
11. Defrost freezer compartment regularly for a manual defrost refrigerator.
12. Make sure that you are using a refrigerator that is approximately sized for your needs. If your fridge is too small, you may be overworking. If it is too large, then you are potentially wasting energy and home space.

OVENS / MICROWAVE OVEN

1. Microwaves use around 50% less energy than conventional ovens: they are most efficient for small portions or defrosting.
2. Check the seal on your oven door to see if there are cracks or tears in it.
3. Develop the habit of 'lids-on' cooking to permit lower temperature settings.
4. Carefully measure water used for cooking to avoid having to heat more than is needed.
5. Begin cooking on highest heat until liquid begins to boil. Then lower the heat control settings and allow food to simmer until fully cooked.

Rearrange oven shelves before turning your oven on and don't peep at food in the oven! Every time you open the oven door, 4°-5° is lost

When preheating an oven for baking, time the preheat period carefully. Five to eight minutes should be sufficient.

For large items, stove-top cooking is most efficient, especially with gas.

For large items, stove-top cooking is most efficient, especially with gas.

NG MACHINES

Washing machines can account for as much as 20% of the electricity you use.

Use Cold water, as almost 90% of the energy consumed by washing machines goes to heating the water. Set the washing machine temperature to cold or warm and the rinse temperature to cold as often as possible.

Each was cycle uses up to 60 to 90 liters of water. Use washing machine on full load and plan washing periodicity to save on water too.

Adding too much detergent actually hampers effective washing action and may require more energy in the form of extra rinses.

Wash only full loads of clothing-but do not overload machine. Sort laundry and schedule washes so that a complete job can be done with a few cycles of the machine carrying its full capacity, rather than a greater number of cycle with light loads.

Soak or pre-wash the cloths for effective cleaning.

NG

Organized cooking activity can save about 20% Energy.

Use right quantity of water required for cooking and reduce gas / kerosene usage by 65%.

Cook on low flame as far as possible and save 6 to 10% energy.

The pressure cooker should be loaded 2/3rd of the foodstuff is solid & hard and Â½ if loaded with liquid.

Properly used pressure cookers can save up to 50 to 75% of energy as well as time.

Cook your food in solar cooker and save cost of 2 LPG Cylinders annually.

When cooking on a gas burner, use moderate flame settings to conserve LPG.

Remember that a blue flame means your gas stove is operating efficiently.

Yellowish flame is an indicator at the burner need cleaning.

Use pressure cooker as much as possible.

Use lids to cover the pans while cooking.

Bring items taken out of refrigerators (like vegetables, milk etc) to room temperature before placing on the gas stove for heating.

/ WATER HEATER

Install Solar Water Heating System.

By reducing the temperature setting of water heater from 60 degrees to 50 degrees C, one could save over 18 percent of the energy used at the higher setting.

To help reduce heat loss, always insulate hot water pipes, especially where they run through unheated areas. Never insulate plastic pipes.

A dripping faucet wastes water and if it's dripping hot water, its wasting energy too. Often requiring nothing more then a new washer, fixing leaks is one of the quickest and least expensive ways of reducing the energy and water bills.

Another way to reduce waste is to take showers or baths depending on which uses less hot water then baths, other way baths use more. They are both right. Which is correct for you depends on how long and hot your showers are and how deep deep and warm your baths are.

Using less hot water may be easier than you think. Water conserving shower heads and faucet aerators can cut hot water use inn half.. To see if this will work for you, first determine what your faucet and shower flow rates are now.

To select the right water heater for your home, you need to consider family size and whether your usage would be considered high or low demand. It is assumed that you know your family size, so all you have to determine is your usage profile.

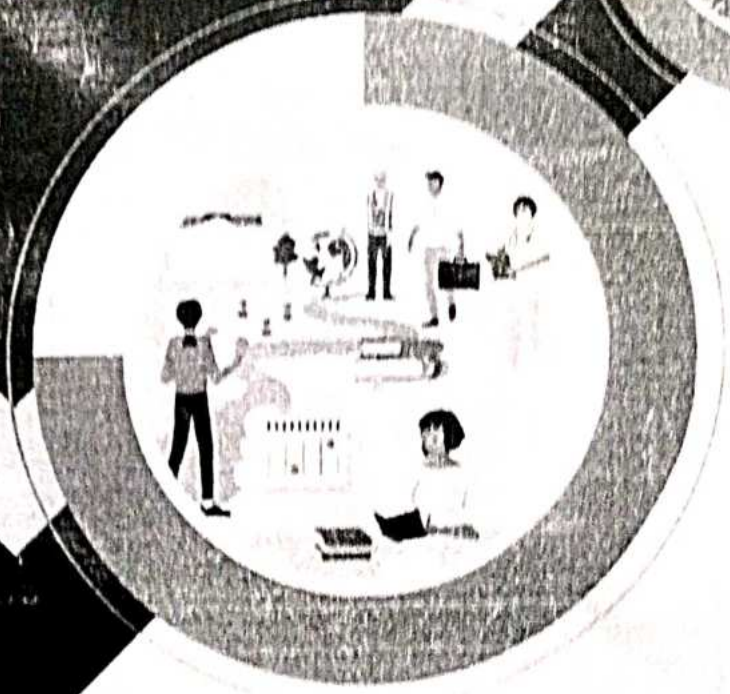
COMPUTER

1. Computer that runs 24 hours a day, for instance, used-more power than an energy efficient refrigerator.
2. Screen savers save computer screens, not energy. Start-ups and shutdown do not use any extra energy, nor are they hard on your computer components. In fact, shutting computers down when you are finished using them actually reduces system wear and saves energy.
3. Purchase flat-screen LCD monitors.
4. Setting computers, monitors and copiers to sleep-mode when not in use helps cut energy costs by approximately 40%
5. Activate and standardize 'power down' on new and existing PCs
6. If your computer must be left on, turn off the monitor; this device alone uses more than half the system's energy.

--- Compiled by
Prof. M.L.S.Deva Kumar, JNTUA Ananthapuramu

Model Program Book

COMMUNITY SERVICE PROJECT



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Phones: 08678 - 273535 / 94914 57799 / 73826 16824
E mail: office@mictech.ac.in, Website: www.mictech.edu.in

AUTONOMOUS
Accredited by NAAC With Grade A

PROGRAM BOOK
FOR
COMMUNITY SERVICE PROJECT

Name of the Student: S. Leela krishna.

Name of the College: MIC college of Technology

Registration Number: 20H71A0310

Period of CSP: 6 weeks **From:** 30/7/22 **To:** 13/8/22
From: 7/1/23 **To:** 23/2/23

Name & Address of the Community/ Habitation:
Jaggayyapet.

JNTU - KAKINADA

YEAR: 2020 - 2023

Instructions to Students for Community Service Project

Please read the detailed Guidelines on Community Service Project hosted onthe website of AP State Council of Higher Education https://apsche.ap.gov.in

Link: https://apsche.ap.gov.in/Pdf/Guidelines%20for%20the%20OJT%20Internship%20Community%20Service%20Project.pdf

1. It is mandatory for all the students to complete 180 hours of Community Service Project as a part of the internship/on the job training.
2. Consider yourself a committed volunteer in the community, you work with.
3. Every student should identify the village/community/habitation for Community Service Project (CSP) in consultation with the College Principal/the authorized person nominated by the Principal.
4. Report to the community/habitation as per the schedule given by the College. You must make your own arrangements for transportation to reach the community/habitation.
5. You will be assigned a Faculty Guide from your College. He/She will be creating a WhatsApp group with your fellow volunteers. Post your daily activity done and/or any difficulty you encounter during the programme.
6. You should maintain punctuality in attending the CSP. Daily attendance is compulsory.
7. You are expected to learn about the community/habitation and their problems.
8. Know the leaders and the officials of the community/habitation.
9. While in the project, always wear your College Identity Card.
10. If your College has a prescribed dress as uniform, wear the uniform daily.
11. Identify at least five learning objectives in consultation with your Faculty Guide. These learning objectives can address:
    - Information about the community, including the realities and problems of the society.
    - Need for creating awareness on socially relevant aspects/programs.
    - Acquiring specific Life Skills.
    - Learning areas of application of knowledge and technologies related to your discipline.
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13. **Be regular in filling up your Program Book. It shall be filled up in your own handwriting. Add additional sheets wherever necessary.**
14. At the end of Community Service Project, you shall be evaluated by the person in-charge of the community/habitation to whom you report to.
15. There shall also be an evaluation at the end of the community service bythe Faculty Guide and the Principal.
16. Do not indulge in any political activities.
17. Ensure that you do not cause any disturbance to the inhabitants or households during your interaction or collection of data.
18. Be cordial but not too intimate with the people you come across during your service activities.
19. You should understand that during this activity, you are the ambassador of your College, and your behavior during the community service programme is of utmost importance.
20. If you are involved in any discipline related issues, you will be withdrawn from the programme immediately and disciplinary action shall be initiated.
21. Do not forget to keep up your family pride and prestige of your College.
22. Remember that you are rendering valuable service to the society and your role in the community development will become part of the history of the community.

Community Service Project Report

Submitted in accordance with the requirement for the degree of. B.tech

Name of the College: Mic Collage of technology

Department: Mechanical engineering.

Name of the Faculty Guide: Ranjith kumar

Duration of the CSP: 6 weeks From: 30/7/22 To: 23/2/23

Name of the Student: G. Leela Krishna.

Programme of Study: Vechile Lubrication / Radiators / service.

Year of Study: 2020 - 2024

Register Number: 20H71A0310

Date of Submission: 10/2/23

Student's Declaration

I, S. Leela Krishna, a student of B.tech Program, Reg. No. 20H71A0310 of the Department of mechanical, MIC College of technology College do hereby declare that I have completed the mandatory community service from 30/7/22 to 22/1/23 in lubrication of engines *(Name of the Community/ Habitation)* under the Faculty Guideship of Ranjith Kumar R., *(Name of the Faculty Guide)*, Department of mechanical engineering in DVR & Dr. HS MIC College of technology. College.

S. Leela Krishna.
20/1/23.

(Signature and Date)

Endorsements

CSE Faculty Guide

Head of the Department

Head of the Department
Dept. of Mechanical Engg.
DVR & Dr. HS MIC College of Technology
Kanchikacherla, Krishna Dt.
Andhra Pradesh, India – Pin: 521180.

10/2/23
Principal

Certificate from
Official of the Community

This is to certify that S. Leela Krishna. *(Name of the Community Service Volunteer)* Reg. No 20H71A0336 of Dr. L. B. R. S. Mic College of Technology (Name of the College) underwent community service in TATA motors limited (Jaggayyapet *(Name of the Community)* from 30/7/22 to 13/8/22 (Phase-I) and from 9/1/23 to 22/1/23 (Phase-II). The overall performance of the Community Service Volunteer during his/her community service is found to be good *(Satisfactory/Good)*.

10/1/23

Authorized Signatory with Date and Seal

Acknowledgements

We wish to express our sincere gratitude to our esteemed guide Ranjith Kumar (Prof) for his valuable guidance, encouragement and gracious support throughout the work. His valuable suggestions, effusive co-ordination and encouraging interactions were a great driving once for us to carry out this Community Service Project.

We are grateful to D. Shiva Reddy. Head of the Civil Engineering Department, for his support and permitting us to take up our project work and to complete the project successfully.

We express our sincere thanks to Srinivas Principal, DVR & Dr. HS MIC College of Technology, Kanchikacherla.

We are also thankful to S. Akash (manager) official of the community, who gives support to us during this work and others who assisted us in this community project work.

S. Leela Krishna
Project Members

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WEEKLY REPORT

WEEK – 1 (From Dt..... to Dt .....)

Objective of the Activity Done: (lubricants)

Detailed Report: the lubricants in engine play using Importatat role and Engine Basic Parts. Diesel Engine basic concept will explain the internal combustion Engine and the Importance of maintag engeney lik a person can repair vehicle by himself without anyhelp.

Wear and tear resistance of tyres when brakes were applied and regular check of air pressure maintance or air pressure in the type.

Speeing damper etc and this maintance. Engine maintance like engine oil filter values clean the dirt particles and washing the loay in regular intervals of time apply gear and light lubricants in the regular interval of time this will improve the good life span of engine and an effect work can be observed by the engine this helps to forward day distances.

WEEKLY REPORT

WEEK – 2 (From Dt..... to Dt.....)

Objective of the Activity Done: (transportation.)

Detailed Report: The Cep community service project. Regarding logistics. is to carry and transfer. the goods to different locations and solving and making it available. and. Easy to provide. within the duration of time

any day. travelling the problems of Engine and insufficient fuels and heating of the Engine. lubrication. some of them. that were discussed propoubly.

Knowing the shortage of material and as well the problem they face while the transportation. the benefits of lubrications of parts and checking the. engine. condition regular basis the. type of fuel. used. according and. proper material. used. to make each. part. were. discarded. to make. sure that. were. discarded. according to mechanical. engineering filed.

WEEKLY REPORT

WEEK – 3 (From Dt..... to Dt.....)

Objective of the Activity Done: Career Guidance.

Detailed Report: To guide them and discuss Examace and idea about mechanical, engineering and Jobs and Career after Mechanical Engineering.

Engineering plays a critical part in every product goodgt the system you can in your daily life.

Engeers directly contribute to well beaing of society.

Engineers work primary in natation idea designing about new product or improving and existing one.

The innovations of engeneers go into make our living carrer more comfortable as productive creative solution to every day problems and after at the heart of Engine they here are implit of Engineers modern life and the health and technology safety and the advancements, manufacturing processes of well.

WEEKLY REPORT

WEEK – 4 (From Dt..... to Dt .....)

Objective of the Activity Done: Career Path way's

Detailed Report: Design:- Skills required CAD CAE Theemo Fluids, stress analysis FEA Job roles:- Structural Engineer HVAC Comer piping Engineer

production:- Skills required, Industrial Engineering machines production / operation, Management.

Job:- production engineer Filling Engines

maintance :- Skill required machine design. Engineering System Controll and in structetion.

Jobs:- power Engineer / maintaince. Engineering.

Sales:- & other:-

spread sheet Calculations modeling and simulation

Jobs Managers → safety & Healthy Environment:-

Sales Engineer.

ACTIVITY LOG FOR THE ~~SECOND~~ FIFTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	Engine maintance like maintay engine oil	Engine Capacity and types of values	SRI MITHRA TRUCK & BUS SERVICE CENTER JAGGAYAPET 521175
Day - 2	lubrification points. different area of the vehicle.	different types of lubrification used for lubricate	SRI MITHRA TRUCK & BUS SERVICE CENTER JAGGAYAPET 521175
Day – 3	wear and tear resistance of tyres check of air pressure	maintanice of air pressure. according to the amount load	SRI MITHRA TRUCK & BUS SERVICE CENTER JAGGAYAPET 521175
Day – 4	Importance of maintay emergency kits	A person can survive to himself with help.	SRI MITHRA TRUCK & BUS SERVICE CENTER JAGGAYAPET 521175
Day – 5	Effectiveness of the battery,	Types of Batteries.	SRI MITHRA TRUCK & BUS SERVICE CENTER JAGGAYAPET 521175
Day –6	spring, damper etc and their maintance.	Reduce the vibrations & absorption. shocks	SRI MITHRA TRUCK & BUS SERVICE CENTER JAGGAYAPET 521175

WEEKLY REPORT

WEEK – 5 (From Dt..... to Dt.....)

Objective of the Activity Done: Engine lubrication.

Detailed Report: Engine maintance lube maintay. the Engine oil fuel values engine capacity and type of value. lubrication of parts. all different area of the vechile the. different types of lubricants and for lubrican. Cats clean and for resistance of type. and regular. Checks of air pressure in, type maintance of air pressure according to the amount of load Completion of run, for emergency kit Impact leg travelling person can repaire vehile by himself without any help Effectiness of the the maintance Reducing the vibration, According. Absorption of shocks. though. indicating the disel normal advantage about also. for, seat issues Precise the internal. Combustion, engine in which ignition of the fuel Beyond on the lands in the around types wear and tear tools Cost.

CHAPTER 4 SIXTH

ACTIVITY LOG FOR THE ~~FIRST~~ WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	Disel-engine Basic concept	Engine Parts. Parts	SRI MITHRA TRUCK & BUS SERVICE CENTER JAGGAYYAPET 521175
Day - 2	Importance of maintaney emeagency kit	A Person can repair vehicle by himself without any help	SRI MITHRA TRUCK & BUS SERVICE CENTER JAGGAYYAPET 521175
Day – 3	spray damper & tie and-tang maintaney	Reduce the vibration. Absorption of Shocker	SRI MITHRA TRUCK & BUS SERVICE CENTER JAGGAYYAPET 521175
Day – 4	wheel and tey repair of types and reply. Check of air pressure	maintance of air pressure amount of Coach.	SRI MITHRA TRUCK & BUS SERVICE CENTER JAGGAYYAPET 521175
Day – 5	Lubrification of parts resistance of type,	different types of lubricator and for lubricating	SRI MITHRA TRUCK & BUS SERVICE CENTER JAGGAYYAPET 521175
Day – 6	engine maintance. of engine oil fuel valey.	Engine capacity and types of valey	SRI MITHRA TRUCK & BUS SERVICE CENTER JAGGAYYAPET 521175

WEEKLY REPORT

WEEK – 6 (From Dt..... to Dt .....)

Objective of the Activity Done: Diesel Engine Crane, Lorry

Detailed Report: Firstly the diesel engins is also know as the Internal. Combustion Engine the Complete disergion in which ignition of the fuel is Caused by the Elevated tempelature of the air. lubrication of the parts apply the grease and liquid and Coolents taking Care of engine the diesel Engine as working fuel we Can genate the ignition without any spark plug A small Efficiency loss is also avoided Compared with direct injection

low speed diesel Engine with ships and other applications where air and fuel mixes weight is selectively unimpatte Can reach Effective upto 55%

Diesel Engine bey be designed as either two stroke as flows stroke Engine

mean as four stroke.

resistance of the types hydralic tubes and different types of lubrigants are used.

CHAPTER-5

Outcomes Description

- the Important terms that should be noted down is educating the person without any cost and the ideology. and common basic concepts that they were following.

+ the weare the theme of Engine was discussed and the role particular developmental activities were followed and run the machine.

* Getting the feed back about the machine.

* The second week allabout the transportation and supplement of good to team to the people.

* Almost the interaction with the position of different development activities and Implantation of the activities.

* The path way of Career after the engineering especially after Mechanical Engineering.

* Industrial over view and transport health and work con be

* studing about spring damper and inorder to observe the vibations shakes etc.

CHAPTER-6

Recommendations and Conclusions

* mechanical Engineers design power producing machines electrical generators Internal combustion engines and steam and gas turbines as well as air.

Power using machines such as refrigeration and air conditionaly system.

mechanical Engineer career path way

The total developmental programs in the local areas from the fields.

Conceptual understanding manufacturing and maintance department and states and other department as well.

CHAPTER-7

Student Self-Evaluation for the Community Service Project

Student Name: S. Leela Krishna

Registration No: 20H71A0310

Period of CSP: 6 weeks

Date of Evaluation: 23/2/23

Please rate your performance in the following areas:

Rating Scale: **Letter grade of CGPA calculation to be provided**

1	Oral communication	1	2	3	4 ✓	5
2	Written communication	1	2 ✓	3	4	5
3	Proactiveness	1	2	3 ✓	4	5
4	Interaction ability with community	1	2	3	4 ✓	5
5	Positive Attitude	1	2 ✓	3	4	5
6	Self-confidence	1	2	3	4 ✓	5
7	Ability to learn	1	2	3 ✓	4	5
8	Work Plan and organization	1	2 ✓	3	4	5
9	Professionalism	1	2	3	4 ✓	5
10	Creativity	1	2	3	4	5 ✓
11	Quality of work done	1	2	3	4 ✓	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3 ✓	4	5
14	Achievement of Desired Outcomes	1	2	3	4 ✓	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

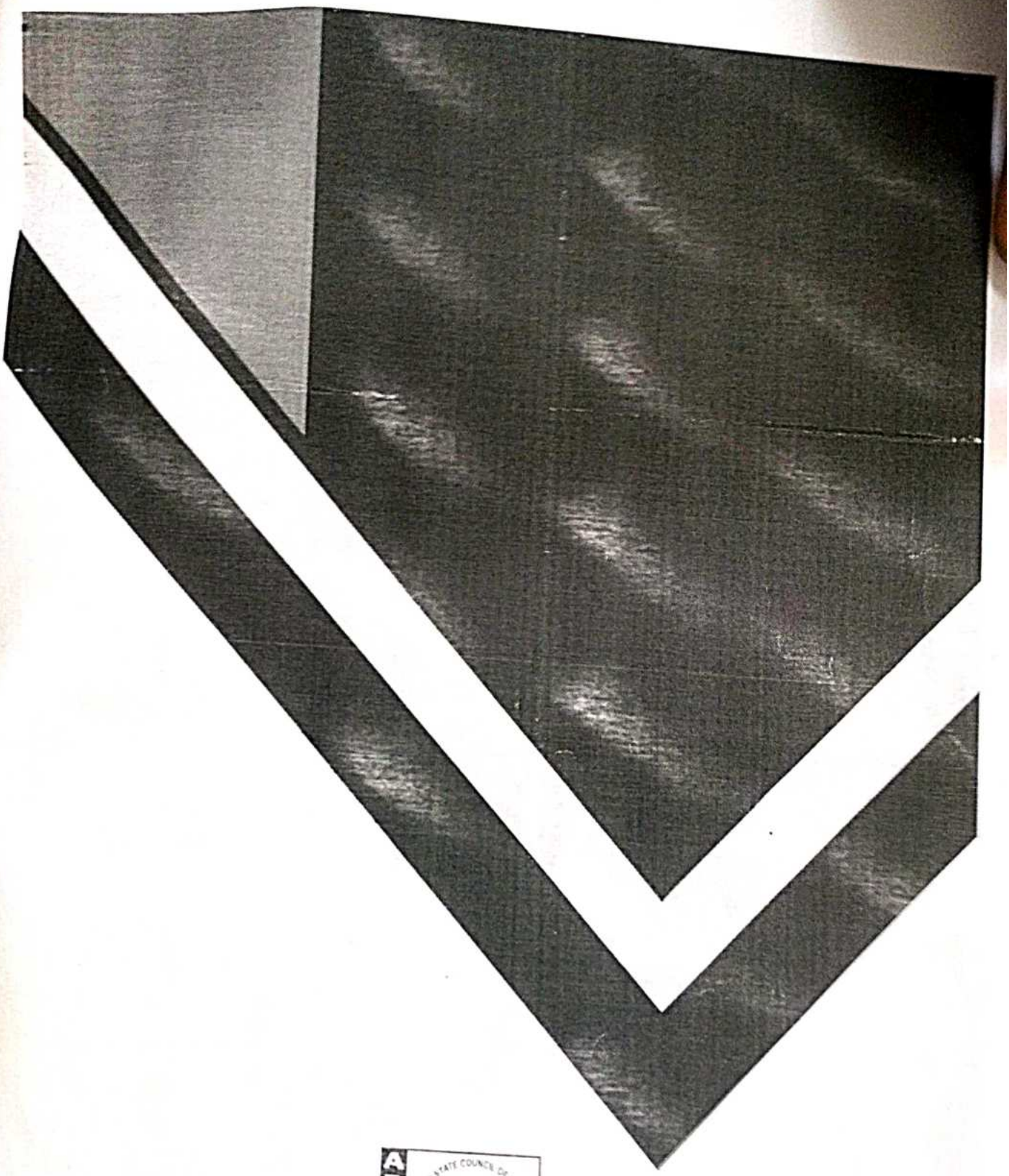
S. Leela Krishna.

Signature of the Student

Date: 23/2/23.

Network Jan 24, 2023 12:32:17 PM GMT+05:30
Local Jan 24, 2023 12:32:17 PM GMT+05:30
16°53'39"N 80°6'38.136"E
Jaggaiahpet
Andhra Pradesh
6
397

Network Jan 24, 2023
Local Jan 24, 2023
Jaggampeta
Andhra Pradesh
697



ANDHRA PRADESH
STATE COUNCIL OF HIGHER EDUCATION

(A Statuory Body of the Government of Andhra Pradesh)
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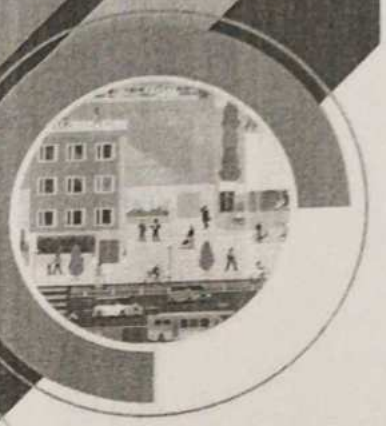
Atmakur (V)Mangalagiri (M), Guntur, Andhra Pradesh, India - 522 503
www.apsche.ap.gov.in

Model Program Book

COMMUNITY SERVICE PROJECT



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PROGRAM BOOK
FOR
COMMUNITY SERVICE PROJECT

Name of the Student: P. Sai kumar

Name of the College: DVR& Dr. HS MIC COLLEGE OF TECHNOLOGY

Registration Number: 21H75A0352.

Period of CSP: 4 weeks **From:** 30/07/2022 **To:** 13/08/2022

From: 09/01/2023 **To:** 22/01/2023

Name & Address of the Community/ Habitation:

JNTU - KAKINADA

YEAR: 2022-2023

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PROGRAM BOOK
FOR
COMMUNITY SERVICE PROJECT

Name of the Student: P. Hemanth

Name of the College: DVR & DR. HS Mic college of Technology

Registration Number: 21H75A0319

Period of CSP: 4 weeks **From:** 30/7/22 **To:** 13/08/22

From: 09/01/23 **To:** 22/01/23

Name & Address of the Community/ Habitation:

JNTU - KAKINADA

YEAR: 2022-2023

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PROGRAM BOOK
FOR
COMMUNITY SERVICE PROJECT

Name of the Student: N. Hari Gopal

Name of the College: D.V.R & Dr.H.S MIC College of Technology.

Registration Number: 21H75A0317

Period of CSP: 4 weeks **From:** 25/07/22 **To:** 06/08/22
From: 09/01/23 **To:** 22/01/23

Name & Address of the Community/ Habitation:

JNTU - KAKINADA

YEAR: 2022 - 2023

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    - Need for creating awareness on socially relevant aspects/programs.
    - Acquiring specific Life Skills.
    - Learning areas of application of knowledge and technologies related to your discipline.
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22. Remember that you are rendering valuable service to the society and your role in the community development will become part of the history of the community.

Community Service Project Report

Submitted in accordance with the requirement for the degree of.....

Name of the College: DVR & DR. HS MIC COLLEGE OF TECHNOLOGY.

Department: Mechanical Engineering

Name of the Faculty Guide: K. Supriya

Duration of the CSP: 2 weeks From: 09/01/2023 To: 22/01/2023

Name of the Student: P. Sai kumar

Programme of Study:

Year of Study: B. tech III rd year (2022-2023)

Register Number: 21H75A0354

Date of Submission: 30/01/23

Student's Declaration

I, P. Sai kumar, a student of B.tech Program,

Reg. No. 21H75A0352 of the Department of Mechanical,

MIC College of Technology College do hereby declare that I have completed

the mandatory community service from 30/07/22 to 22/01/23 in

Guidence for 10th Students / Mechanisation of Agriculture using power tool. *(Name of the Community/ Habitation)* under the Faculty

Guideship of K. Supriya, *(Name of the Faculty Guide)*, Department

of Mechanical Engineering in

MIC college of Technology. College.

P. Raghul

(Signature and Date)

Endorsements

Supriya

CSP- Faculty Guide

(K. SUPRIYA)

Head of the Department

Head of the Department
Dept. of Mechanical Engg.
DVR & Dr. HS MIC College of Technology
Kanchikacherla, Krishna Dt.
Andhra Pradesh, India – Pin: 521180.

10/2/23

Principal

Student's Declaration

I, P. Hemanth, a student of B-Tech Program, Reg. No. 21N75A0319 of the Department of Mechanical, Mic college of Technology College do hereby declare that I have completed the mandatory community service from 30/1/22 to 22/01/23 in Guidance for 10th students (Name of the Community/ Habitation) under the Faculty Guideship of N. Naresh Babu, (Name of the Faculty Guide), Department of Mechanical Engineering in DVR & Dr. HS Mic College of Technology College.

Hemanth 30/1/23
(Signature and Date)

Endorsements

AB 10/02/23
CSP- Faculty Guide

Head of the Department

Head of the Department
Dept. of Mechanical Engg.
DVR & Dr. HS MIC College of Technology
Kanchikacherla, Krishna Dt.
Andhra Pradesh, India – PIN 521180

KJ 10/2/23
Principal

Student's Declaration

I, N. Hari Gopal, a student of _____ Program, Reg. No. 21H75A0317 of the Department of Mechanical, MIC College of Technology College do hereby declare that I have completed the mandatory community service from 30/07/22 to 20/01/2023 in Guided 10th Students *(Name of the Community/ Habitation)* under the Faculty Guideship of R. Ranjith kumar, *(Name of the Faculty Guide)*, Department of mechanical Engineering in DVR & Dr. H.S MIC College of Technology College.

N. Hari Gopal.

(Signature and Date)

Endorsements

CSR- Faculty Guide

Head of the Department
Dept. of Mechanical Engg.
DVR & Dr. HS MIC College of Technology
Kandulapalem, Krishna Dt.
Andhra Pradesh, India – Pin: 521180.

Head of the Department

10/2/23

Principal

Certificate from
Official of the Community

This is to certify that P. Sai Kumar (Name of the Community Service Volunteer) Reg. No 21H75A0352 of DVR & Dr. HS MIC College of Technology. (Name of the College) underwent community service in Guidence for 10th class students/Mechanisation of Agriculture using power tool. (Name of the Community) from 30/7/22 to 13/08/22 (Phase-I) and from 09/01/2023 to 22/01/23 (Phase-II). The overall performance of the Community Service Volunteer during his/her community service is found to be Satisfactory (Satisfactory/Good).

A Sarala 1-2-2023

Authorized Signatory with Date and Seal

HEAD MASTER
Z P H SCHOOL
KANCHIKACHERLA-521184

Certificate from
Official of the Community

This is to certify that P. Hemanth *(Name of the Community Service Volunteer)* Reg. No 21H75A0319 of DVR & Dr. HS MIC COLLEGE OF TECHNOLOGY (Name of the College) underwent community service in Guidance for 10th class students *(Name of the Community)* from 30/7/22 to 13/08/22 (Phase-I) and from 09/01/2023 to 22/01/23 (Phase-II). The overall performance of the Community Service Volunteer during his/her community service is found to be Satisfactory *(Satisfactory/Good)*.

A. Sunila 1-2-2023

Authorized Signatory with Date and Seal

HEAD MASTER
Z P H SCHOOL
KANCHIKACHERLA-521189

Certificate from
Official of the Community

This is to certify that N. Hari Gopal (Name of the Community Service Volunteer) Reg. No 21H75A0317 of DVR & DR. HS MIC College of Technology (Name of the College) underwent community service in Guided 10th Students about future (Name of the Community) from 30/07/2022 to 13/08/2022 (Phase-I) and from 09/01/2023 to 28/01/2023 (Phase-II). The overall performance of the Community Service Volunteer during his/her community service is found to be Satisfactory (Satisfactory/Good).

S Sarala 1-2-2023

Authorized Signatory with Date and Seal

HEAD MASTER
Z P H SCHOOL
KANCHIKACHERLA-521180

Acknowledgements

We wish to express our sincere gratitude to our esteemed guide K. Supriya for his valuable guidance, encouragement and gracious support throughout the work. His valuable suggestions, effusive co-ordination and encouraging interactions were a great driving once for us to carry out this Community Service Project.

We are grateful to Dr. D.V Siva Reddy Head of the Mechanical Engineering Department, for his support and permitting us to take up our project work and to complete the project successfully.

We express our sincere thanks to Dr. K. Srinivas Rao Principal, DVR & Dr. HS MIC College of Technology, Kanchikacherla.

We are also thankful to A. Suneela official of the community, who gives support to us during this work and others who assisted us in this community project work.

Project Members

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CHAPTER-1

Executive Summary

We have decided to go in a path to guide the students into a better carrer on mechanical Engineering. we Thought of a moment to help a community of farmers on new farming methods and give them brief of using power tools and their wolking in modern Forming. As we have started to visit schools for guidence of Carrer to the students we had many students who were very impoltant of into know about what They were to do by our guidence and path of Career.

As we have visited many schools for our Community Service project to guide the students on their Career. we have learned many things and thought them many things and Even Some of their teachers have helped us during our guidence to the students which us inspired

As we have moved to the farmer mechanization by power tools. we helped many Farmers on learning modern Forming methods and usage of power tools.

CHAPTER-2

Overview of the Community

our Community has many children who were about to Enter into a life of Education which starts their path For a good Caner in the future. They might wont to become anything they want to be apart From being a mechanical Engineering we have helped them in the selection and path of their own. Depending upon their choice and we have managed to Explain them. How a mechanical Engineering life would be apart from others with a temparary job of high Salary they awere truly intrigeued into the Subject and the application to their life.

our Community Even has some of the small formers who are poor in knowledge of the modren Forming and tools that can be used For forming during heavy crops we gathered them together to a place and Explained about the modern Farming and about the power tools.

CHAPTER-3

Community Service Part

we have scheduled our Community Serivce on the basis of the students timings at the schools and the permisions give by the principal. we have scheduled it as one week is for the Carrer guidence to the students on mechanical Engineering and them other week as farmer Mechanization by power tool in the former.

As we scheduled on our community service we started visting schools and farms for guidence on both Carrier guidence and farm mechanization by power tools.

CHAPTER-4

ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Carrier guidence of importance of mechanical Engineering at various Levels of life	students were very interested in the path of mechanics	
Day - 2	Carrier guidence of importance of material Engineering at various Levels of life.	Students were very interested in the parth of mechanical.	
Day - 3	Carrier guidence of important of mechanical engineering	Students were very interested in the path of mechanical	
Day - 4	carrier guidence of important of mechanical engineering	Students were very interested in the path of mechanical	
Day - 5	carrier guidence of important of mechanical engineering.	students were very interested in the path of mechanics	
Day -6	carrier guidence of importance of mechanical engineering.	students were very interested in the path of mechanical	

WEEKLY REPORT

WEEK – 1 (From Dt 30/7/22 to Dt 5/8/22)

Objective of the Activity Done: Career guidence on importance of mechanical engineering.

Detailed Report:

on the detail discursion with the students on their Career & the path they won't to go in, we have Sucerspully managed to make them learn and in their path of getting a great opperting the students were very intriguid is their path of carrer to get a bright we Even gave Every one a clear information on the goals and ways to achives them even through they are different from Students (or) Engineering.

Many of the Students were about the start their answer on being a mechanical Engineer as we have started on its importance in life.

ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Farm mechanization by power tools	The workers and tenants were more interested in power tools.	
Day - 2	farm mechanization by power tools	the workers and tenants were more interested in power tools.	
Day - 3	farm mechanization by power tools	the workers and tenants were more interested in power tool	
Day - 4	farm mechanization by power tools	The workers and tenants were more interested in power tool.	
Day - 5	farm mechanization by power tools	the workers and tenants were more interested in power tool.	
Day - 6	farm mechanization by power tools.	the workers and tenants were more interested in power tool.	

WEEKLY REPORT

WEEK – 2 (From Dt 6/8/22 to Dt 13/8/22)

Objective of the Activity Done: Farm mechanization by power tools

Detailed Report:

Many of the Farmers in the locality we have visited were still using the methods that were used in 90's so we have made simpler changing with what they had and a little of scrap materials that were left.

They were involved in what we were about to do it the things we have collected and helped us to make what we were sepoised to the outcomes of their little work and scrap.

we Explained them about power tools and their functions in the farming and how they make the work Easy and Efficient we gave them a clear idea on Every power tool.

ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Career guidance of importance of mechanical engineering	students were very interested in the path of mechanical	
Day - 2	Career guidance of impor-tance of mechanical engineering	students were very interested in the path of mechanics	
Day - 3	carrier guidance of importance of mechanical engineering	Students were very interested in the path of mechanical.	
Day - 4	Carrier guidance of importance of mechanical engineering.	Students were very interested in the path of mechanical.	
Day - 5	Carrier guidance of importance of mechanical engineering	Students were very interested in the path of mechanical	
Day - 6	carrier guidance of importance of mechani-cal engineering.	Students were very interested in the path of mechanical.	

WEEKLY REPORT

WEEK – 3 (From Dt 9/1/23 to Dt 25/1/23)

Objective of the Activity Done:

Detailed Report:

on the detail discussion with the students on their carrer and the path they went to go in we have incerpally managed to make them learn about the importance of B.tech in their lives and in their path of gelting a great appartaties the students were very intriged in thier path of carrier to get a bright future. we Even gave Everyone a clear information on the goals and ways to achive them Even through they are different from studies (or) Engineering.

ACTIVITY LOG FOR THE FORTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day – 1	Farm mechanization by power tools	The workers and tenents were more interested in power tools	
Day - 2	Farm mechanization by power tools	The workers and tenents were interested in power tools.	
Day – 3	Farm mechanization by power tools	The workers and tenents were more interested in power tools.	
Day – 4	Farm mechanization by power tools	The workers and tenents were more interested in power tools	
Day – 5	Farm mechanization by power tools	The workers and tenents were more interested in power tools	
Day –6	Farm mechanization by power tools	The workers and tenents were more interested in power tools.	

WEEKLY REPORT

WEEK – 4 (From Dt 16/1/23 to Dt 23/1/23)

Objective of the Activity Done:

Detailed Report:

Many of the farmers in the locality we have visited were still using the methods that were used in 90's so we have made some simple changes with what they told to had and a little of scrap materials that were left. They were involved in what we were about to do with the things we have.

collect and helped us to make what we were trying and did exactly what we said they were surprised to the outcome of their little work & scrap.

ACTIVITY LOG FOR THE FIFTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Carrer guidance on mechanical Engineering	Students were very interested in path of mechanics	S.S. Prasad HEAD MASTER Z P H SCHOOL KANCHIKACHERLA-5211
Day - 2	Carrer guidance on Importance of mechanical Engineering	Students were very interested in path of mechanics	S.S. Prasad HEAD MASTER Z P H SCHOOL KANCHIKACHERLA-5211
Day - 3	career guidance on importance of mechanical engineering	Students were very interested in path of mechanics	S.S. Prasad HEAD MASTER Z P H SCHOOL KANCHIKACHERLA-5211
Day - 4	career guidance on importance of mechanical engineering	Students were very interested in the path of mechanics	S.S. Prasad HEAD MASTER Z P H SCHOOL KANCHIKACHERLA-5211
Day - 5	Farm mechanization by Power tool	Students were very interested in the path of mechanics	E. Krishnakumari Panchayat Secretary GRAMA PANCHAYAT KONDURU
Day -6	Farm mechanization by Power tool.	Students were very interested in the path of mechanics	E. Krishnakumari Panchayat Secretary GRAMA PANCHAYAT KONDURU

WEEKLY REPORT

WEEK – 5 (From Dt 9/1/23 to Dt 25/1/23)

Objective of the Activity Done: Carrier guidence for students.

Detailed Report:

on the detail discurrion with the student on their carrier and the path. They want to go in we have sucursful managed to make them learn about importance of B.Tech in their lives and in their path of carrier to make a get a bright future. we Even gave Everyone a clear information on the goals and ways to achive them even though they different from Student (or) Engineering.

Many of the students were very find of the Engineering college and the life.

ACTIVITY LOG FOR THE SIXTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Carrer guidence on Importance of mechanical Engineering	Students were very interested in the path of mechanics	S. S. HEAD MASTER Z P H SCHOOL KANCHIKACHERLA-5211
Day - 2	Carrer guidence on Importance of mechanical Engineering	Students were very interested in the path of mechanics	S. S. HEAD MASTER Z P H SCHOOL KANCHIKACHERLA-5211
Day - 3	career guidance on Importance of mechanical engineering	Students were very interested in the path of mechanics	S. S. HEAD MASTER Z P H SCHOOL KANCHIKACHERLA-5211
Day - 4	career guidance on Importance of mechanical engineering	Students were very interested in the path of mechanics	S. S. HEAD MASTER Z P H SCHOOL KANCHIKACHERLA-5211
Day - 5	Farm mechanization by power tool.	Students were very interested in the path of mechanics	E. Krishnakumari Panchayat Secretary GRAMA PANCHAYAT KONDURU
Day - 6	Farm mechanization by power tool.	Students were very interested in the path of mechanics	E. Krishnakumari Panchayat Secretary GRAMA PANCHAYAT KONDURU

WEEKLY REPORT

WEEK – 6 (From Dt 16/1/23 to Dt 23/1/23)

Objective of the Activity Done:

Detailed Report:

on the detail discussion with the students on their carrier and the path they went to go in, we have sucessfully managed to make them learn about their impoltance of B.tech in their Lives and in their path of getting a gret opportunites the students were very intequid in their path of carrier to make get a bright future we even gave everyone a clear information on the goals and ways to achive them even through they are studies.

CHAPTER-5

Outcomes Description

Every school we have visted for carier guidence has given a exceptional outcomes including the students of new 10th (9th class) The intiest they have shown in our guidence has given us more energy & ecitment about the other schools and the rating of our guidences and their understaing towards.

Everyone of them were different from each other in the ideology with a better ways of having a good carier we have sharpened. Their ideas with Explanation and shown them the opportunities that are in front of them.

we visit different forms one by one but we were excited and schooled seeing them gathering towards our Explanation on the modern forming and usage of power tools.

CHAPTER-6

Recommendations and Conclusions

As many as schools we have visited we understood Many things about the students and about their thought. on carrier and future among them are,

* lack of perpective
* Lack of guidence on their goals
* Having temprary goals
* Thinking of carning money is what carrier means
* Lack of knowledge on path of carrier.

As we have guided them in the right direction to achive their goals and we also shown the opportunities they have we hope achieve their goals and have a better carrier.

CHAPTER-7

Student Self-Evaluation for the Community Service Project

Student Name: P. Sai Kumar

Registration No: 21H175A0352

Period of CSP: 4 weeks

Date of Evaluation: 30/01/2023

Please rate your performance in the following areas:

Rating Scale: **Letter grade of CGPA calculation to be provided**

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Proactiveness	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

Date: 30/01/2023

P. Sai Kumar

Signature of the Student

CHAPTER-8

Evaluation by the Person in-charge in the Community / Habitation

Student Name: P. Sai kumar

Registration No: 21H75A0352

Period of CSP:

Date of Evaluation: 30/1/2022

Name of the Person in-charge: A SUNEELA

Address with mobile number: ZPHS-KANCHIKACHERLA

Please rate the student's performance in the following areas:

Please note that your evaluation shall be done independent of the Student's self-evaluation

Rating Scale: 1 is lowest and 5 is highest rank

1	**Oral communication**	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	**Proactiveness**	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	**Positive Attitude**	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	**Ability to learn**	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	**Quality of work done**	1	2	3	4	5
12	**Time Management**	1	2	3	4	5
13	**Understanding the Community**	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

Date: 1-2-2023

A Suneela 1-2-2023

Signature of the Supervisor

HEAD MASTER
Z P H SCHOOL
KANCHIKACHERLA-52118.

CHAPTER-7

Student Self-Evaluation for the Community Service Project

Student Name: P. Hemanth

Registration No: 21H75A0319

Period of CSP: 4 weeks

Date of Evaluation: 30/01/2023

Please rate your performance in the following areas:

Rating Scale: **Letter grade of CGPA calculation to be provided**

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Proactiveness	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

Date: 30/01/2023

Hemanth

Signature of the Student

CHAPTER-8

Evaluation by the Person in-charge in the Community / Habitation

Student Name: P. Hemanth

Registration No: 21A1A5A0319

Period of CSP: 4 weeks

Date of Evaluation: 30/01/2023

Name of the Person in-charge: A SONEECA

Address with mobile number: ZPHS - KANCHIKACHERLA

Please rate the student's performance in the following areas:

Please note that your evaluation shall be done independent of the Student's self-evaluation

Rating Scale: 1 is lowest and 5 is highest rank

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Proactiveness	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

Date: 1-2-2023

A Sunela 1-2-2023

Signature of the Supervisor

HEAD MASTER
Z P H SCHOOL
KANCHIKACHERLA-521186

CHAPTER-7

Student Self-Evaluation for the Community Service Project

Student Name: N. Hari Gopal

Registration No: 21H75A0317

Period of CSP: 4 weeks

Date of Evaluation: 30/01/2023

Please rate your performance in the following areas:

Rating Scale: **Letter grade of CGPA calculation to be provided**

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Proactiveness	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

N. Hari Gopal

Signature of the Student

Date: 30/01/2023

CHAPTER-8

Evaluation by the Person in-charge in the Community / Habitation

Student Name: N. Hari gopal

Registration No: 21H75A0317

Period of CSP: 4 weeks

Date of Evaluation: 30/01/2023

Name of the Person in-charge: A SUNEELA

Address with mobile number: ZPHS KANCHIKACHERLA

Please rate the student's performance in the following areas:

Please note that your evaluation shall be done independent of the Student's self-evaluation

Rating Scale: 1 is lowest and 5 is highest rank

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
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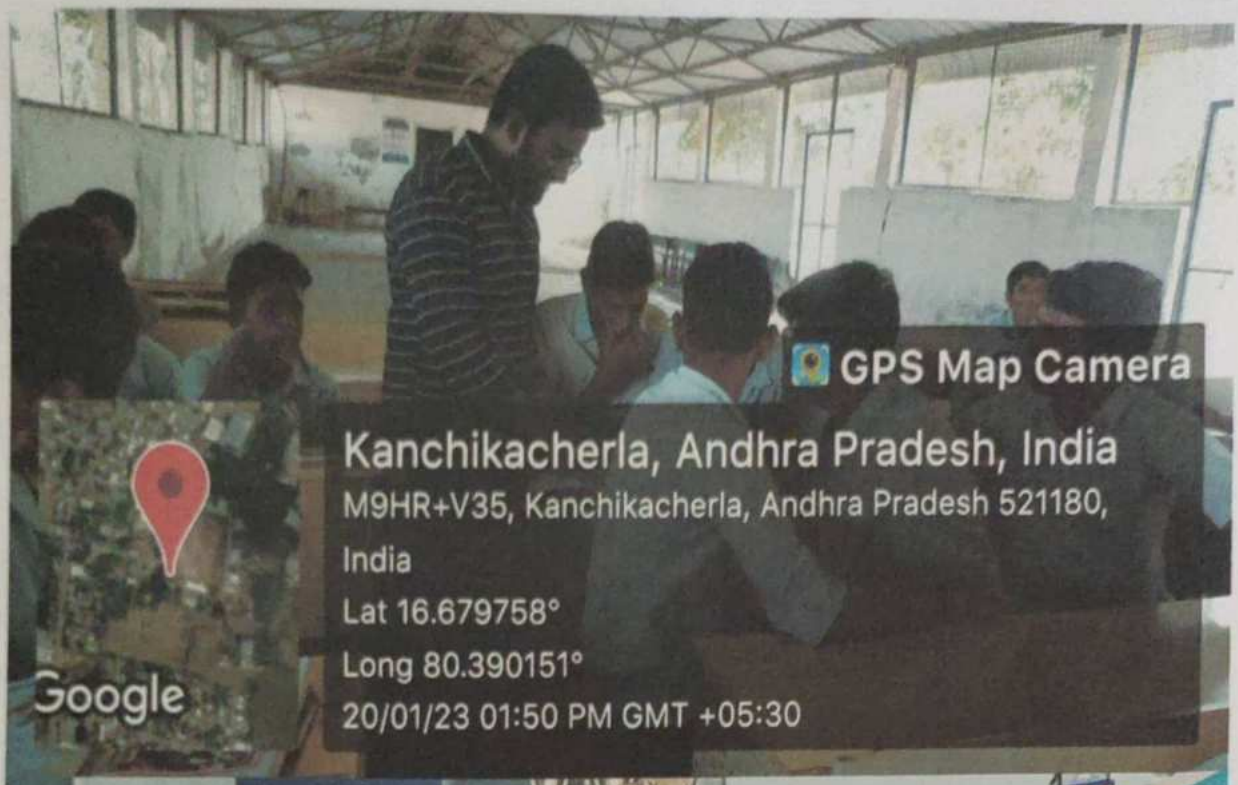
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	**OVERALL PERFORMANCE**	**1**	**2**	**3**	**4**	**5**

A Suneela 1-2-2023

Signature of the Supervisor

HEAD MASTER
Z P H SCHOOL
KANCHIKACHERLA-521180

Date: 1-2-2023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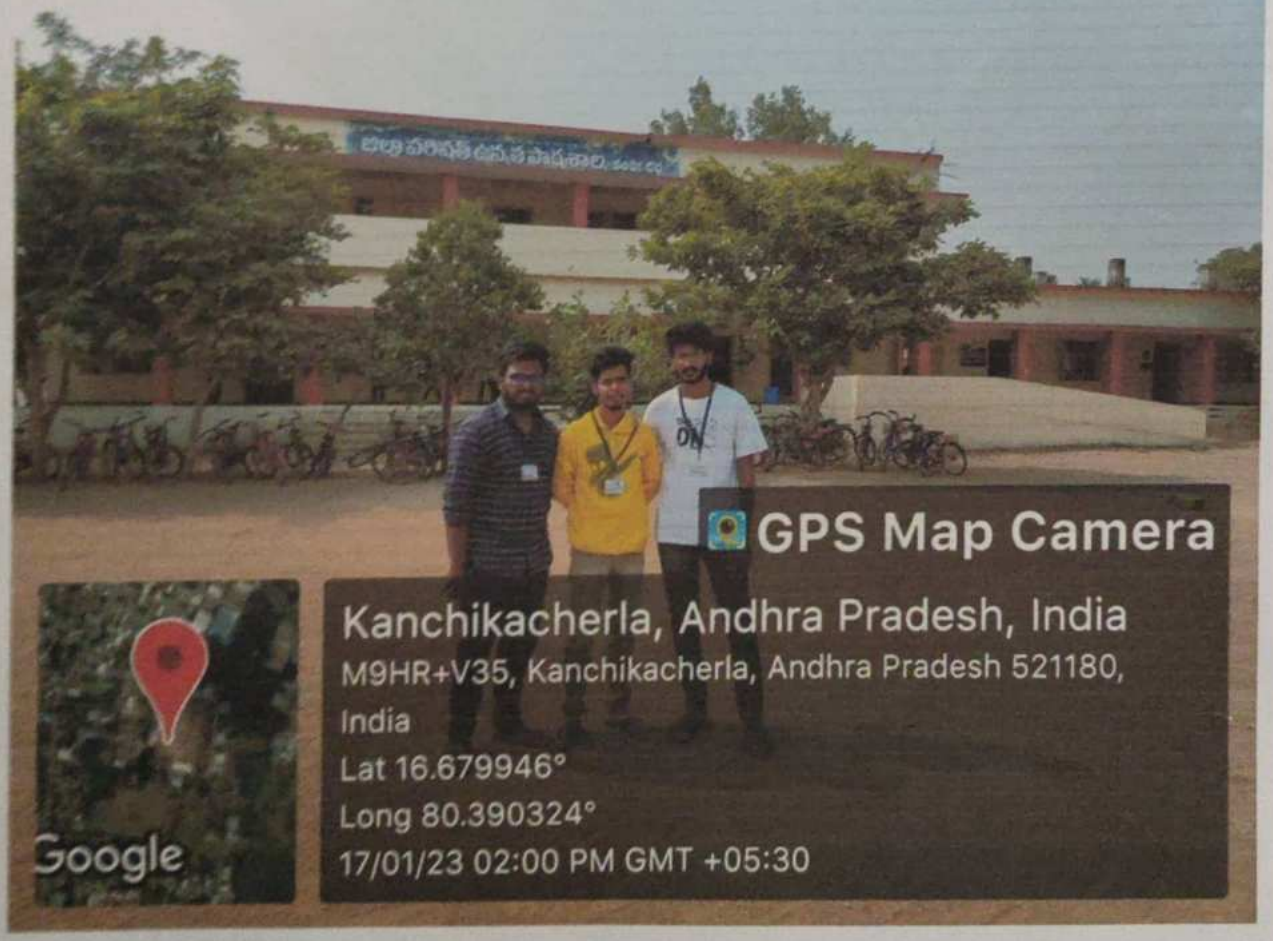
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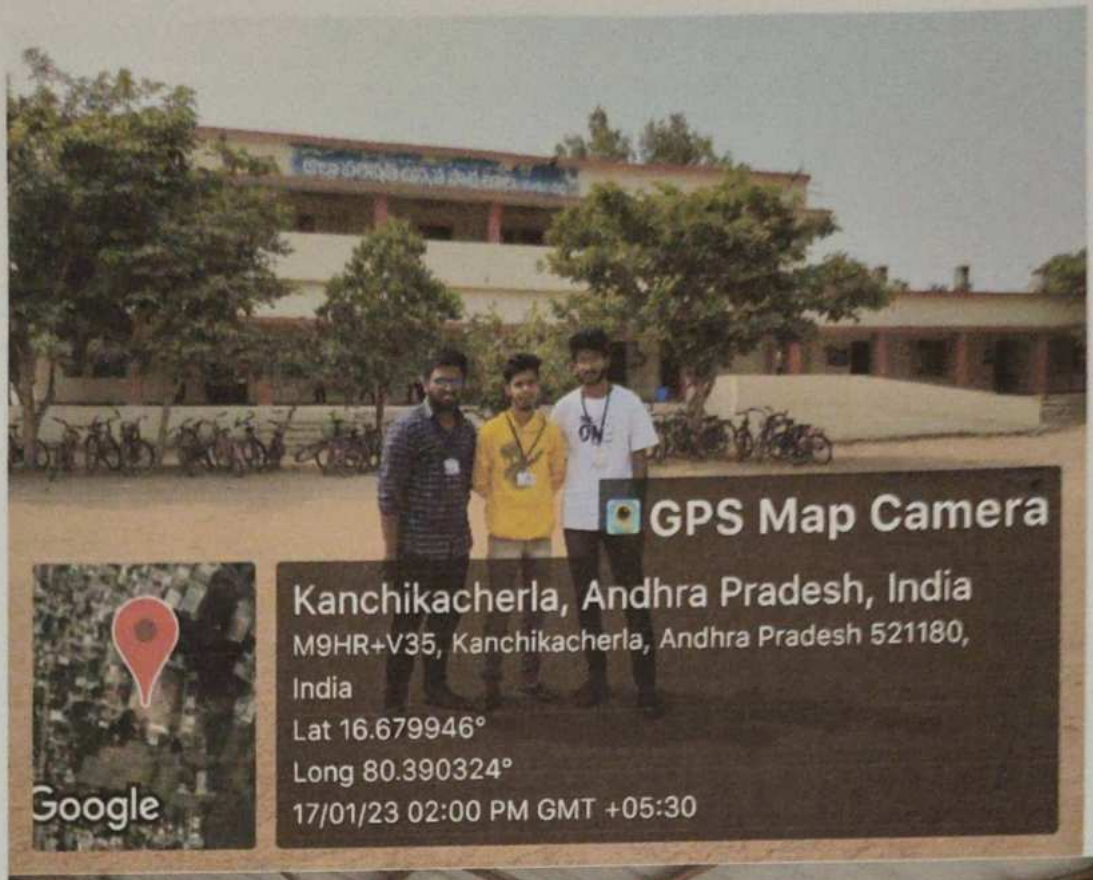
Google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Kanchikacherla, Andhra Pradesh, India
M9HR+V35, Kanchikacherla, Andhra Pradesh 521180, India
Lat 16.679946°
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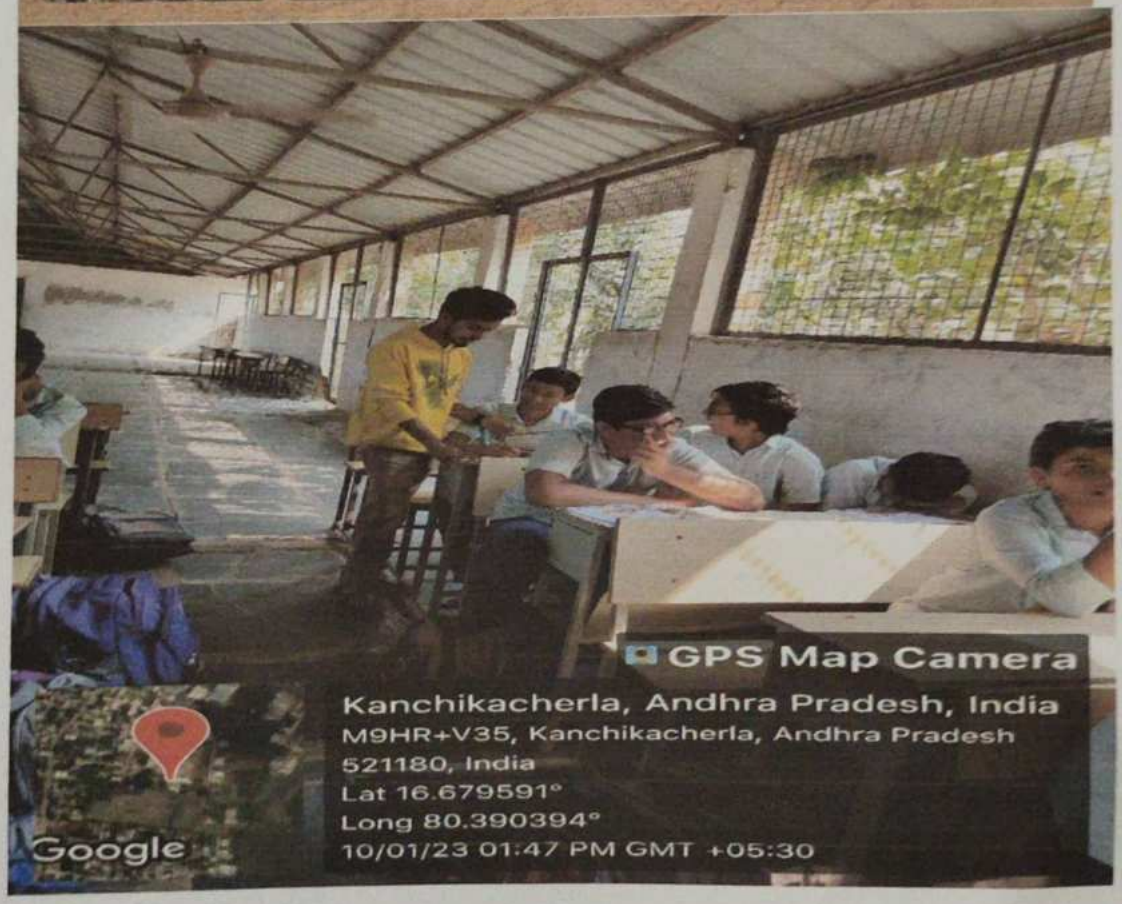
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ANDHRA PRADESH
STATE COUNCIL OF HIGHER EDUCATION
(A Statuory Body of the Government of Andhra Pradesh)
2nd, 3rd, 4th and 5th floors, Neeladri Towers, Sri Ram Nagar, 6th Battalion Road
Atmakur (V)Mangalagiri (M), Guntur, Andhra Pradesh, Pin - 522 503
www.apsche.ap.gov.in

BOARD FOR COMMUNITY DEVELOPMENT *through* EDUCATION
GOVERNMENT OF ANDHRA PRADESH
2nd floor, Neeladri Towers, Sri Ram Nagar, 6th Battalion Road, Atmakur (V), Mangalagiri (M),
Guntur Dt. A.P.– 522 503, E-mail: secretarybcd2021@gmail.com; Mobile: 9440285609

HOME ENERGYAUDIT - WORKSHEET

OBJECTIVES:

To estimate Energy consumption for a house;

To understand peak energy consumption pattern;

To identify ways and means of Energy Conservation;

To propose action plan for Energy Conservation;

To measure the savings after implementation of Energy conservation tips.

INTRODUCTION:

Energy is an important commodity in this modern era. As the utility of energy is continuously increasing due to reasons like population growth, increase in usage of electrical equipment, mechanization, enhancement in comfort living requirements etc., The Energy production is not increasing to meet such peak increase in usage of Energy. It is leading to huge gap between Energy Demand and Supply. Hence it is every citizens responsibility to reduce the gap between energy demand and supply by conserving energy as much as possible. In order to implement energy conservation it is necessary to understand the consumption patterns and possible avenues of conservation. Energy Audit is one best way to achieve this.

An energy audit is a way to calculate how much energy being used at home. It will help the citizen to identify how much energy each home uses and where could be saving energy possible. It is thefirst step tomaking thehome, theschooloranyotherareamoreenergyefficient.

Activity1:CalculatetheAmpsandenergyusedbyallofthese appliancesinoneday:

Equationforcalculatingenergy:

- Energy(kWh)=(Power(watts)xtimexnumberofappliances)÷1000

Appliance	Power(W)	Numberof appliances	Timeused (hour)	Energy(kWh)
CeilingFan	**80W**	**2**	**5**	**(80x5x2)÷1000=** 0.8kWh
Desktopcomputer	300W	1	4	(300x4x1) ÷ 1000 = 1.2kwh
LEDbulb	10W	4	3	(10x3x4) ÷ 1000 = 0.12kwh
Tubelight	40W	4	5	(40x5x4) ÷ 1000 = 0.8 kwh
Television	200W	1	4	(200x4x1) ÷ 1000 = 0.8 kwh
Washing Machine	320W	1	3	(320x4x1) ÷ 1000 = 0.96kwh
Microwave	1400W	1	2	(1400x2x1) ÷ 1000 = 2.8 kwh
Refrigerator	2000W	1	24	(2000x24x1) ÷ 1000 = 48 kwh
Immersion Water Heater	1000W	1	0.5	(1000x0.5x1) ÷ 1000 = 0.5kwh
Geyser	3000W	1	3	(3000x3x1) ÷ 1000 = 9 kwh

Activity2:Questions

1. Whichwerethethreeappliancesthatusedthemostenergy?Whataretheyusedfor?

washing machine, water heaters, lightling are the appliances that are used the most Energy it is home appliances to make our daily life routine Easier

2. a) What was the total energy used by all of the appliances (tip – add up all of the energy (kWh)values):

***Note–**
itislikelythatyourenergyusagemaybehigherthanthecalculatedvalueasyoumayhaveotherappliancesthatarenotincludedinthistable.Thisworksheetprovidesan approximatevalue.

1.2 + 0.12 + 0.8 + 0.8 + 0.96 + 2.8 + 48 + 0.5 + 9 = 64.18 kwh

b) Calculate how many kWh of energy are consumed on average in a month (tip - multiply

yourtotalenergy usedbyall appliancesby the numberofdays inthemonth)

total Energy used x days in month

64.18x30 = 1925.4.

c) Checkyourelectricitybillandcompareittothemonthlyenergyusagethatyoucalculated.

Your total monthly energyusage from your calculationin2(b)	1925.4
Your total monthly energyusagefromelectricitybill	2100

An average household in Mumbai city consumes 298kWh of electricity every month and releasesabout244kgsof CO_2e(1kWh releases0.82 kgCO_2e)

3. Writedownideasforreducingenergyconsumptionforappliancesineachcategory:

Device	Ideastoreduceenergy
Example: Washing Machine	Icouldhand wash myclothes somedays.Also,Icouldmakesuremyfamilyrunsbiggerloadsof washingsothatwe do notwaste water.
Heating andcooling	Seal crevices & cracks, clean your AC filters, regularly, close the drapes, clean your AC filter regularly
Screen-based	Black on LED Screen is known to use less power because the LEDS that make up Each pixel are off, whereas displaying white means, the LED's need to shine and consume power.
Lighting	**Did you know, switching off a device from the source at plug reduces consumption of electricitybyan average of10% Invest in energy-Saving light, reduce your voltage, use dimmer switches. Keep the light clean.

4. Choosetwowaysthatyouwillreduceyourenergybillby10.%

Turn off lights, electronics, replace traditional light bulb with led's reduce appliance use. use less hot water, get a smart thermostat ensure your home is properly insulated.

CONDUCT SIMILAR STUDY AFTER IMPLEMENTING THE ENERGY CONSERVATION MEASURES AND MONITOR HOW MUCH IS THE SAVING.

5. Comparingelectricitybillsbeforeandafteryourenergyconservationefforts:

Before:	147.43
Afteronemonth:	100
Totalmoneysaved:	47.43

TOTAL ENERGY SAVINGS FOR THE WARD / VILLAGE AND ALSO REDUCTION IN CARBON EMISSIONS MAY BE CALCULATED AND SUBMITTED TO THE FACULTY MENTOR / WARD / VILLAGE SECRETARY.

THE SAME CAN BE SUBMITTED IN THE FORMAT OF COMMUNITY SERVICE PROJECT AT COLLEGE

BOARD FOR COMMUNITY DEVELOPMENT *through* EDUCATION
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ELECTRICAL ENERGY - SAVING TIPS

(Source: BEE India)

LIGHTING SYSTEM

1. One of the best energy-saving devices in lighting is the switch. Turn off lights when not required.
2. Efficient Fluorescent tube lights such as T5, CFLs and LEDs are much more efficient than incandescent bulbs and can save about 60-80% of electricity for the same lighting levels.
3. Electronic ballasts can reduce power consumption by 20%.
4. Consider employing infrared sensors, motion sensors, automatic timers, dimmers and photocells switches wherever applicable for efficient use. Use outdoor lights with timers or photocells so that they turn off automatically in day light and avoid using curtains during the day.
5. Use task lighting, which focuses light where it is needed. A reading lamp, for example, lights only reading material rather than the whole room.
6. Dirty tube lights and bulbs deliver less light and can absorb about 50 percent of the light; dust tube lights and lamps regularly.
7. Look for BEE rating on the Tubular Fluorescent Lamps.
8. Use artificial lighting only when there is inadequate natural light in a space.
9. Don't replace tube lights (line source) which light over a larger linear spread with a bulb (point source) that emits light from a single point.
10. Don't use dark-colored surface in workrooms. These reduce the reflected light levels and increase the number of lamps required to illuminate the space.
11. Children are advised to study in one room and with individual table lamps and advise them to switch off the individual lamps when not required. Children to utilize morning hours & broad day light for studies rather than using artificial light.
12. Switch off alternate tube Lights/lamps in common areas and staircases during late hours in the night.
13. Please note, a 'Zero Watt' incandescent bulb uses about 10 to 15 watt while an LED bulb of 9 watt can provide light output equivalent to 60 watt incandescent bulb.

CEILING FAN

1. Replace conventional regulators with electronic regulators for ceiling fans.
2. Height of the fan relative to the ceiling. If fan is too close to the ceiling, the airflow is restricted; that is, the fan will not be able to draw as much air through its blade as it has the potential to do. For this reason, 'Hugger' style fans (those which mounted directly to the ceiling without the use of down rod) are all inherently disadvantaged. The distance that a fan should be mounted form the ceiling is directly correlated with its air moving potential; no fan should be mounted with its blade closer than 24 inches to the ceiling.
3. Pitch of the fan's blades. The angle at which the fan's blades tilted relative to X axis is referred to as the blade pitch. The steeper the pitch, the greater the air flow.
   Since increased pitch also means increased drag, only fans with well-made motors can support steep pitches. Cheaply made fans typically have a pitch between 9 and 13 degrees.

AIR CONDITIONER

1. Use BEE star labeled products.
2. Use ceiling or table fan as first line of defense against summer heat. Ceiling fans, for instance, cost about 3 rupees an hour to operate – much less than air conditions (Rs.100 per hour).
3. One will use 3 to 5 per cent less energy for each degree air conditioner is set above 22°C (71.5°F), so far set the thermostat of room air conditioner at 25°C (77°F) to provide the most comfort at the least cost.
4. Reduce air-conditioning energy use by as much as 40 per cent by shading your home as windows and walls. Plant trees and shrubs, to keep the day's hottest sun off your house.
5. Using ceiling or room fans allows you to set the thermostat higher because the air movement will cool the

room.

6. A good air conditioner will cool and dehumidify a room in about 30 minutes, so use a timer and leave the unit off for some time.
7. Clean the air-conditioner filter every month. A dirty air filter reduces airflow and may damage the unit. Clean filters enable the unit to cool down quickly and use less energy.
8. Have your air conditioning unit checked every 6 months. If the Freon level is not correct, you will waste a lot of energy and your home will never be as cool as you want it.
9. The gaps around the windows and doors leads to A C loss. You can use a candle to look for drafts. It the flame flickers or dances, found the place to seal.
10. Draperies on windows help reduce energy loss.
11. Use electronic devices with occupancy sensors which switch on or off automatically by sensing if the room is occupied.
12. Switch to evaporative coolers from air conditioners during hot/dry summer months.
13. Buy split ACs instead of window ACs. They cost more, but they are more energy efficient and consume lesser electricity.
14. Do not install AC units on the west and south walls as these are exposed to direct sunlight through a major part of the day during summers.
15. Do not apply dark colors on the external surfaces (roof and walls) of the house. Dark colors absorb more heat than light colors, leading to increased use of the AC.
16. Ensure that the condenser of the unit must have enough space around it for air to circulate and help the refrigerant dissipate its heat easily.

REFRIGERATOR

1. Use BEE star labelled products.
2. Keep your refrigerator and freezer at the right temperature. If they are only 2-3 degrees colder than necessary, energy consumption may go up by approx 25%.
3. Make sure the door is sealed tightly. When it's dark, place a lit flashlight inside the refrigerator and close the door. If light around the door is seen, the seals need to be replaced.
4. Make sure that the refrigerator is not place against outside facing wall or walls exposed to the direct sunlight.
5. Refrigerator motors and compressors generate heat, so allow enough space for continuous airflow around refrigerator. If the heat can't escape, the refrigerator's cooling system will work harder and use more energy.
6. Do no put uncovered liquids in the refrigerator. The liquids give off vapors that add to the compressor workload.
7. Allow hot food to cool off before putting it in the refrigerator.
8. Think about what you need before opening refrigerator door. You'll reduce the amount of time the door remains open.
9. Make sure that refrigerator's rubber door seals are clean and tight. They should hold a slip of paper snugly. If paper slips out easily, replace the door seals.
10. When dust builds up on refrigerator's condenser coils, the motor works harderand uses more electricity. Clean the coils regularly to make sure that air can circulate freely.
11. Defrost freezer compartment regularly for a manual defrost refrigerator.
12. Make sure that you are using a refrigerator that is approximately sized for your needs. If your fridge is too small, you may be overworking. If it is too large, then you are potentially wasting energy and home space.

OVENS / MICROWAVE OVEN

1. Microwaves use around 50% less energy than conventional ovens: they are most efficient for small portions or defrosting.
2. Check the seal on your oven door to see if there are cracks or tears in it.
3. Develop the habit of 'lids-on' cooking to permit lower temperature settings.
4. Carefully measure water used for cooking to avoid having to heat more than is needed.
5. Begin cooking on highest heat until liquid begins to boil. Then lower the heat control settings and allow food to simmer until fully cooked.

6. Rearrange oven shelves before turning your oven on and don't peep at food in the oven! Every time you open the oven door, 4°-5° is lost
7. When preheating an oven for baking, time the preheat period carefully. Five to eight minutes should be sufficient.
8. For large items, stove-top cooking is most efficient, especially with gas.
9. For large items, stove-top cooking is most efficient, especially with gas.

WASHING MACHINES

1. Washing machines can account for as much as 20% of the electricity you use.
2. Use Cold water, as almost 90% of the energy consumed by washing machines goes to heating the water. Set the washing machine temperature to cold or warm and the rinse temperature to cold as often as possible.
3. Each was cycle uses up to 60 to 90 liters of water. Use washing machine on full load and plan washing periodicity to save on water too.
4. Adding too much detergent actually hampers effective washing action and may require more energy in the form of extra rinses.
5. Wash only full loads of clothing-but do not overload machine. Sort laundry and schedule washes so that a complete job can be done with a few cycles of the machine carrying its full capacity, rather than a greater number of cycle with light loads.
6. Soak or pre-wash the cloths for effective cleaning.

COOKING

1. Organized cooking activity can save about 20% Energy.
2. Use right quantity of water required for cooking and reduce gas / kerosene usage by 65%.
3. Cook on low flame as far as possible and save 6 to 10% energy.
4. The pressure cooker should be loaded 2/3rd of the foodstuff is solid & hard and Â½ if loaded with liquid. Properly used pressure cookers can save up to 50 to 75% of energy as well as time.
5. Cook your food in solar cooker and save cost of 2 LPG Cylinders annually.
6. When cooking on a gas burner, use moderate flame settings to conserve LPG.
7. Remember that a blue flame means your gas stove is operating efficiently.
8. Yellowish flame is an indicator at the burner need cleaning.
9. Use pressure cooker as much as possible.
10. Use lids to cover the pans while cooking.
11. Bring items taken out of refrigerators (like vegetables, milk etc) to room temperature before placing on the gas stove for heating.

GEYSER / WATER HEATER

1. Install Solar Water Heating System.
2. By reducing the temperature setting of water heater from 60 degrees to 50 degrees C, one could save over 18 percent of the energy used at the higher setting.
3. To help reduce heat loss, always insulate hot water pipes, especially where they run through unheated areas. Never insulate plastic pipes.
4. A dripping faucet wastes water and if it's dripping hot water, its wasting energy too. Often requiring nothing more then a new washer, fixing leaks is one of the quickest and least expensive ways of reducing the energy and water bills.
5. Another way to reduce waste is to take showers or baths depending on which uses less hot water then baths, other way baths use more. They are both right. Which is correct for you depends on how long and hot your showers are and how deep deep and warm your baths are.
6. Using less hot water may be easier than you think. Water conserving shower heads and faucet aerators can cut hot water use inn half.. To see if this will work for you, first determine what your faucet and shower flow rates are now.
7. To select the right water heater for your home, you need to consider family size and whether your usage would be considered high or low demand. It is assumed that you know your family size, so all you have to determine is your usage profile.

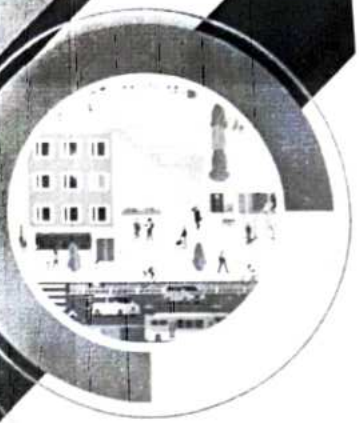
COMPUTER

1. Computer that runs 24 hours a day, for instance, used-more power than an energy efficient refrigerator.
2. Screen savers save computer screens, not energy. Start-ups and shutdown do not use any extra energy, nor are they hard on your computer components. In fact, shutting computers down when you are finished using them actually reduces system wear and saves energy.
3. Purchase flat-screen LCD monitors.
4. Setting computers, monitors and copiers to sleep-mode when not in use helps cut energy costs by approximately 40%
5. Activate and standardize 'power down' on new and existing PCs
6. If your computer must be left on, turn off the monitor; this device alone uses more than half the system's energy.

--- Compiled by
Prof. M.L.S.Deva Kumar, JNTUA Ananthapuramu

Model Program Book

COMMUNITY SERVICE PROJECT



Designed & Developed by

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

(A STATUTORY BODY OF GOVERNMENT OF ANDHRA PRADESH)

DVR & Dr. HS
MIC College of Technology
ISO 9001:2015 Certified Institute
(Approved by AICTE & Permanently Affiliated to JNTUK, Kakinada)
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AUTONOMOUS
Accredited by NAAC With Grade A

PROGRAM BOOK
FOR
COMMUNITY SERVICE PROJECT

Name of the Student: M. Jaya Rajesh
ch. Durga Prasad
B. Raviteja

Name of the College: DVR & Dr. HS MIC COLLEGE OF TECHNOLOGY

Registration Number: 21H75A0323
21H75A0313
21H75A0349

Period of CSP: 6 weeks **From:** 1/8/22 **To:** 9/1/23
From: 13/8/22 **To:** 28/1/23

Name & Address of the Community/ Habitation:
Farm mechanization by power Tools.
Penumaka (P) Tadepalli Mandal. Guntur Dist.

JNTU - KAKINADA

YEAR: 2022-2023

Instructions to Students for Community Service Project

Please read the detailed Guidelines on Community Service Project hosted onthe website of AP State Council of Higher Education https://apsche.ap.gov.in

Link: https://apsche.ap.gov.in/Pdf/Guidelines%20for%20the%20OJT%20Internship%20Community%20Service%20Project.pdf

1. It is mandatory for all the students to complete 180 hours of Community Service Project as a part of the internship/on the job training.
2. Consider yourself a committed volunteer in the community, you work with.
3. Every student should identify the village/community/habitation for Community Service Project (CSP) in consultation with the College Principal/the authorized person nominated by the Principal.
4. Report to the community/habitation as per the schedule given by the College. You must make your own arrangements for transportation to reach the community/habitation.
5. You will be assigned a Faculty Guide from your College. He/She will be creating a WhatsApp group with your fellow volunteers. Post your daily activity done and/or any difficulty you encounter during the programme.
6. You should maintain punctuality in attending the CSP. Daily attendance is compulsory.
7. You are expected to learn about the community/habitation and their problems.
8. Know the leaders and the officials of the community/habitation.
9. While in the project, always wear your College Identity Card.
10. If your College has a prescribed dress as uniform, wear the uniform daily.
11. Identify at least five learning objectives in consultation with your Faculty Guide. These learning objectives can address:
    - Information about the community, including the realities and problems of the society.
    - Need for creating awareness on socially relevant aspects/programs.
    - Acquiring specific Life Skills.
    - Learning areas of application of knowledge and technologies related to your discipline.
    - Identifying developmental needs of the community/habitation.

12. Practice professional communication skills with team members, and with the leaders and officials of the community. This includes expressing thoughts and ideas effectively through oral, written, and non-verbal communication, and utilizing listening skills.
13. **Be regular in filling up your Program Book. It shall be filled up in your own handwriting. Add additional sheets wherever necessary.**
14. At the end of Community Service Project, you shall be evaluated by the person in-charge of the community/habitation to whom you report to.
15. There shall also be an evaluation at the end of the community service bythe Faculty Guide and the Principal.
16. Do not indulge in any political activities.
17. Ensure that you do not cause any disturbance to the inhabitants or households during your interaction or collection of data.
18. Be cordial but not too intimate with the people you come across during your service activities.
19. You should understand that during this activity, you are the ambassador of your College, and your behavior during the community service programme is of utmost importance.
20. If you are involved in any discipline related issues, you will be withdrawn from the programme immediately and disciplinary action shall be initiated.
21. Do not forget to keep up your family pride and prestige of your College.
22. Remember that you are rendering valuable service to the society and your role in the community development will become part of the history of the community.

Community Service Project Report

Submitted in accordance with the requirement for the degree of...B.Tech

Name of the College: DVR & Dr. HS MIC COLLEGE OF TECHNOLOGY

Department: MECHANICAL ENGINEERING

Name of the Faculty Guide: Mr. M. Koteswara Rao 1/3/22 9/1/23

Duration of the CSP: 6 weeks From: 13/8/22 To: 28/1/23

Name of the Student: M. Jaya Rajesh, Ch. Durga Prasad, B. Ravi Teja

Programme of Study: B.Tech

Year of Study: 3rd year (2022-2023)

Register Number: 21H75A0323, 21H75A0313, 21H75A0349

Date of Submission: 10/02/2023

Student's Declaration

We, M. Jaya Rajesh, Ch. Durga Prasad, B. Ravi Teja a student of B. Tech Program,

Reg. No. 21H175A0323, 313, 349 of the Department of Mechanical engineering Technology

MIC College of Engg & College do hereby declare that I have completed

the mandatory community service from 1/8/22 13/8/22 to 9/1/23 28/1/23 in

Penumaka *(Name of the Community/ Habitation)* under the Faculty

Guideship of Mr. M. Koteswara Rao *(Name of the Faculty Guide)*, Department

of Mechanical engineering in

DVR & Dr HS MIC College of Technology College.

M. Jaya Rajesh

Ch. Durga prasad.

B. Ravi Teja

(Signature and Date)

Endorsements

CSP- Faculty Guide

Head of the Department

DVR & Dr. H.S. MIC College of Technology
Kanchikacherla, NTR Dt.
Andhra Pradesh, India - 521180.

10/2/23

Principal

Certificate from
Official of the Community

This is to certify that M. Jaya Rajesh, Ch. Durga Prasad, B. Ravi Teja (Name of the Community Service Volunteer) Reg. No. 21H75A0323, 313, 349 of DVR & Dr. HS MIC College of Technology (Name of the College) underwent community service in Farm Mechanisation by Power Tools. (Name of the Community) from 13/8/22 to 28/1/2 (Phase-I) and from 9/1/23 to 28/1/23 (Phase-II). The overall performance of the Community Service Volunteer during his/her community service is found to be Satisfactory (Satisfactory/Good).

N. [signature]

Authorized Signatory with Date and Seal

Village Revenue Officer (Gr-II)
Grama Sachivalayam
Penumaka-1
Tadepalli Mandal, Guntur Dist

Acknowledgements

We wish to express our sincere gratitude to our esteemed guide Mr. M. Koteswara Rao for his valuable guidance, encouragement and gracious support throughout the work. His valuable suggestions, effusive co-ordination and encouraging interactions were a great driving once for us to carry out this Community Service Project.

We are grateful to Dr. D. V. Siva Reddy Head of the Mechanical Engineering Department, for his support and permitting us to take up our project work and to complete the project successfully.

We express our sincere thanks to Dr. K. Srinivas Principal, DVR & Dr. HS MIC College of Technology, Kanchikacherla.

We are also thankful to Mr. N. Vamsi official of the community, who gives support to us during this work and others who assisted us in this community project work.

M. JAYA RAJESH,
CH Durga prasad,
B Ravi Teja.
Project Members

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CHAPTER 1: EXECUTIVE SUMMARY

The community service report shall have only a one-page executive summary. It shall include a brief description of the Community and summary of all the activities done by the student in CSP and five or more learning objectives and outcomes.

External plant parts-roots, stems, buds, leaves, flowers,fruits and seeds

Leaves, stems, roots, flowers, fruits, and seeds are known as plant organs. Each organ is an organized group of tissues thatwork together to perform a specific function. Sexual reproductive parts produce seed; they include flower buds, flowers, fruit, and seeds. Vegetative parts include roots, stems, shoot buds, and leaves; they are not directly involved in sexual reproduction. Vegetative parts often are used in asexual forms of reproduction such as cuttings, budding, or grafting.

Horticulture is divided into the cultivation of plants for food (pomology and olericulture) and plants for ornament (floriculture and landscape horticulture). Pomology deals with fruit and nut crops. Olericulture deals with herbaceous plants for the kitchen, including, for example, carrots (edible root), asparagus (edible stem), lettuce (edible leaf), cauliflower (edible flower buds), tomatoes (edible fruit), and peas (edible seed). Floriculture deals with the production of flowers and ornamental plants; generally, cut flowers, pot plants, and greenery. Landscape horticulture is a broad category that includes plants for the landscape, including lawn turf but particularly nursery crops such as shrubs, trees, and vines.

Temperate zones for horticulture cannot be defined exactly by lines of latitude or longitude but are usually regarded as including those areas where frost in winter occurs, even though rarely. Thus, most parts of Europe, North America, and northern Asia are included, though some parts of the United States, such as southern Florida, are considered subtropical. A few parts of the north coast of the Mediterranean and the Mediterranean islands are also subtropical. In the Southern Hemisphere, practically all of New Zealand, a few parts of Australia, and the southern part of South America have temperate climates.

CHAPTER 2: OVERVIEW OF THE COMMUNITY

- *About the Community/Village/Habitation including historical profile of the community/habitation, community diversity, traditions, ethics and values.*
- *Brief note on Socio-Economic conditions of the Community/Habitation.*

Horticulture is the **art of cultivating plants in gardens** to produce food and medicinal ingredients, or for comfort and ornamental purposes. Horticulturists are agriculturists who grow flowers, fruits and nuts, vegetables and herbs, as well as ornamental trees and lawns.

Vegetable crops vary in kind and quality with the presence or absence of periodic dry seasons.In the uniformly wet tropics, the choice is limited to a few root crops and still fewer greens. Sweet potatoes grow and bear good crops where the average monthly rainfall, throughout the year, exceeds 25 cm (10 inches), but they grow evenbetter where there is a dry season. The same can be said of taro, yams, and cassava. Tropical greens from the Malay Peninsula are not as good as those grown in South China, the Hawaiian Islands, and Puerto Rico. They include several spinaches, of which Chinese spinach or amaranth is the best; In the tropics of Asia and parts of Central and South America, the dominant features of the gardens are flowering trees, shrubs, and climbers. Herbaceous plants are relatively few, but many kinds of orchids can be grown.

Vegetable crops vary in kind and quality with the presence or absence of periodic dry seasons. In the uniformly wet tropics, the choice is limited to a few root crops and still fewer greens. Sweet potatoes grow and bear good crops where the average monthly rainfall, throughout the year, exceeds 25 cm (10 inches), but they grow even better where there is a dry season. The same can be said of taro, yams, and cassava. Tropical greens from the Malay Peninsula are not as good as those grown in South China, the Hawaiian Islands, and Puerto Rico. They include several spinaches, of which Chinese spinach or amaranth is the best;

CHAPTER 3: COMMUNITY SERVICE PART

Description of the Activities undertaken in the Community during the Community Service Project. This part could end by reflecting on what kind of values, life skills, and technical skills the student acquired.

Community service might include taking part in a **graffiti cleanup project**. The term community service refers to any act that is performed for the benefit of the community at large. Acts can range from a one-time effort to collect canned goods for the local food pantry to a weekly commitment to serve meals to the homeless.

While most vegetable seed germinates readily upon exposure to normally favourable environmental conditions, many seed plants that are vegetatively (asexually) propagated fail to germinate readily because of physical or physiologically imposed dormancy. Physical dormancy is due to structural limitations to germination such as hard impervious seed coats. Under natural conditions weathering for a number of years weakens the seed coat. Certain seeds, such as the sweet pea, have a tough husk that can be artificially worn or weakened to render the seed coat permeable to gases and water by a process known as scarification. This is accomplished by a number of methods including abrasive action, soaking in hot water, or acid treatment. Physiologically imposed dormancy involves the presence of germination inhibitors. Germination in such seed may be accomplished by treatmentto remove these inhibitors.

Trade in seed requires quality control. For example, U.S. government seed laws require detailed labeling showing germination percentage, mechanical purity, amount of seed, origin, and moisture content. Seed testing is thus an important partofthe seed industry.

The most common method of propagation for self-pollinated plants is by seed. In self-pollinated plants, the sperm nuclei in pollen produced by a flower fertilize egg cells of a flower on the same plant. Propagation by seed is also used widely for manycross-pollinated plants (those whose pollen is carried from one plant to another).

Seed is usually the least expensive and often the only means of propagation and offers a convenient way to store plants over long periods of time. Seed kept dry and

ACTIVITY LOG FOR THE FIRST WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILYACTIVITY	LEARNING OUTCOME	Person In-charge Signature
Day – 1	Introduction of community service project	A community survey is a method of collecting data from a filtered target audience to help you understand an issue particular to them. Community service is a way for people to make a difference in the world.	N. Vani Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'
Day - 2	Needs and importance of community service project	The world play an important role in the development of society, ranging from social enterprises in some of the poorest rural areas of the globe, to service designed to enhance quality of life for the more vulnerable members of society in any country or region.	N. Vani Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'
Day – 3	Forms of Community Service	There are three types of community service and service-learning:direct, in-direct and advocacy.	N. Vani Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'
Day – 4	Direct Service	Direct service activities where students interact with the recipients of service or the physical environment they have targeted forimprovement.	N. Vani Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'
Day – 5	Indirect Service	The ability to come in direct contact with the beneficiaries of service, you can organize an indirect service activity wherestudents channel resources to a problem but do not interact with those being served.	N. Vani Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'
Day – 6	Advocacy	It is important to always be an advocate for the issues that inspire you. During advocacy service activities, students bring awareness to an issue and inspire others to take action.	N. Vani Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'

WEEKLY REPORT

WEEK – 1 (From Dt..... to Dt.....)

Objective of the Activity Done: Collected the total information of Community Service Project

Detailed Report:

"Service learning is a process of involving students in community service activities combined with facilitated means for applying the experience to their academic and personal development" . It is a form of experiential education aimed at enhancing and enriching student learning in course material. When compared to other forms of experiential learning like internships and cooperative education.

ACTIVITY LOG FOR THE SECOND WEEK

DAY & DATE	BRIEF DESCRIPTION OF THEDAILY ACTIVITY	LEARNING OUTCOME	Person In-charge Signature
Day – 1	Introduction of Horticulture	**Horticulture** is the art of cultivating plants in gardens to produce food and medicinal ingredients, or for comfort and ornamental purposes. Horticulturists are agriculturists who grow flowers, fruits and nuts, vegetables and herbs, as well as ornamental trees and lawns.	N. Ramji Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'
Day - 2	Types of Horticulture	1.Oreliculture 2.Pomology 3.Viticulture 4.Floriculture 5.Arboriculture 6.Turf management	N. Ramji Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'
Day – 3	Soil preparation	In agriculture, **ploughing, levelling, and manuring** are the three steps of soil preparation. Ploughing includes loosening and digging of soil.	N. Ramji Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'
Day – 4	Types of Soils	1.Sandy soil 2.Clay soil 3.Loamy soil 4.Silty soil 5.Chalky soil	N. Ramji Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'
Day – 5	Horticultural organizations	There are various organizations worldwide that focus on promoting and encouraging research and education in all branches of horticultural science; such organizations include the International Society for Horticulture Science and the American Society of Horticulture Science.	N. Ramji Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'
Day – 6	Importance of Horticulture	Horticulture enriches diets: Horticulture specifically, growing fruits and vegetables provides **critical nutrients for a balanced diet.**	N. Ramji Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka Tadepalli Mandal, Guntur Dis'

WEEKLY REPORT

WEEK – 2 (From Dt..... to Dt.....)

Objective of the Activity Done:

Detailed Report: Knowing about the Horticulture

In this week we all made a group and understood what is Horticulture.

How is the Cycle of Horticulture is being done.

How farmers cultivate their lands.

We came to know the way of life of a farmer.

The way the farmers Live. The way they work. Their dedication towards the work and the love to the soil.

ACTIVITY LOG FOR THE THIRD WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	Person In-charge Signature
Day - 1	Problem statements for Horticulture	1.Resource use efficiency 2.Integrated Pest and Disease management 3.Post - Harvest Management 4.Toward net - zero Horticulture 5.Year - round supply	N. Venu Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dist
Day - 2	Resource use efficiency	Changing environmental conditions are impacting horticultural production, particularly the availability of necessary resources. A key issue facing horticulture in almost all areas of the world is water availability.	N. Venu Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dist
Day - 3	Integrated Pest and Disease Management	Emerging pests and pathogens and increasing pesticide resistance continue to pose significant challenges to horticulture.	N. Venu Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dist
Day - 4	Post - Harvest Management	In recent times, there has been a shift toward the consumption of fresh rather than frozen produce.	N. Venu Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dist
Day - 5	Toward net - zero Horticulture	Developing innovative methods contributing to net-zero horticulture need baseline data on the environmental footprint of individual processes in primary production and immediate post-harvest management.	N. Venu Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dist
Day - 6	Year - round supply	Consumers now expect year-round provision of safe, nutritious fruit and vegetables, and cut-flowers, which is primarily achieved through a combination of locally-produced and imported crops via storage and long-distance transportation.	N. Venu Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dist

WEEKLY REPORT

WEEK – 3 (From Dt..... to Dt.....)

Objective of the Activity Done:Problem sttements
Detailed Report: knowing about problem statement and solutions.
Resource use efficiency.
Integrated Pest and Disease Management.
Post – Harvest Management.
Toward net – zero Horticulture.
Year - round supply.
Changing environmental conditions are impacting horticultural production, particularly the availability of necessary resources. A key issue facing horticulture in almost all areas of the world is water availability.
Emerging pests and pathogens and increasing pesticide resistance continue to pose significant challenges to horticulture.
In recent times, there has been a shift toward the consumption of fresh rather than frozen produce.
Developing innovative methods contributing to net-zero horticulture need baseline data on the environmental footprint of individual processes in primary production and immediate post-harvest management.
Consumers now expect year-round provision of safe, nutritious fruit and vegetables, and cut-flowers, which is primarily achieved through a combination of locally-produced and imported crops via storage and long-distance transportation.

ACTIVITY LOG FOR THE FOURTH WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	Person In-charge Signature
Day – 1	**Resources with sub-optimal skills are matched**	Increase the availability of high quality and safe horticultural produce by **developing improved crop management practices** (e.g. good agricultural practices, integrated production and pest management, integrated soil health management, organic farming) for sustainable and environmentally friendly horticultural crop	N. Venu Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'
Day - 2	Major challenges facing the commercial horticulture	Horticulture contributes significantly to society in terms of provision of healthy foods, vitamins and minerals, and recreational activities. Commercial horticulture is very diverse	N. Venu Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'
Day – 3	Quality control and quality assurance	The processed products should follow the Food Safety and Standard Authority of India (FSSAI) act 2006. FSSAI Act is applicable pan India for all food products.	N. Venu Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'
Day – 4	Integrated pest and disease management	Emerging pests and pathogens and increasing pesticide resistance continue to pose significant challenges to horticulture. Superficial damage to fresh vegetable and fruit produce is unacceptable to consumers but this is coupled with a desire for no pesticide residues in food	N. Venu Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'
Day – 5	**Low cost or low tech greenhouse**	Low cost greenhouse is a simple structure constructed with locally available materials such as bamboo, timber etc. The ultra violet (UV) film is used as cladding materials	N. Venu Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'
Day – 6	Less expensive greenhouse without fan and pad	As these system are semi-automatic, hence, require a lot of attention and care, and it is very difficult and cumbersome to maintain uniform environment throughout the cropping period. These greenhouses are suitable for dry and composite climatic zones	N. Venu Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dis'

WEEKLY REPORT

WEEK – 4 (From Dt..... to Dt... .....)

Objective of the Activity Done:
Detailed Report: Alternate solution for problems
Resources with sub-optimal skills are matched
Increase the availability of high quality and safe horticultural produce by **developing improved crop management practices**
Major challenges facing the commercial horticulture
Horticulture contributes significantly to society in terms of provision of healthy foods, vitamins and minerals, and recreational activities
Quality control and quality assurance
The processed products should follow the Food Safety and Standard Authority of India (FSSAI) act 2006. FSSAI Act is applicable pan India for all food products
Integrated pest and disease management
Emerging pests and pathogens and increasing pesticide resistance continue to pose significant challenges to horticulture.
Less expensive greenhouse without fan and pad
As these system are semi-automatic, hence, require a lot of attention and care, and it is very difficult and cumbersome to maintain uniform environment throughout the cropping period.

ACTIVITY LOG FOR THE FIFTH WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	Person In-charge Signature
Day – 1	Mandal office at kalvabugga	Home Gardening and Urban Agriculture (HGUA) programmes help local communities grow economically, socially and health-wise. According to the Department of Economic and Social Affairs, United Nations (UN) 2018 report by 2050, 68% of the world's population is projected to live in urban areas, a sizable increase from the current 55%.	N. Ganesh Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dist
Day - 2	How to cultivate plants in Horticulture	The soil around existing plants is cultivated—**by hand using a hoe or by machine using a cultivator**—to destroy weeds and promote growth by increasing soil aeration and water infiltration. Soil being prepared for the planting of a crop is cultivated by a harrow or plow.	N. Ganesh Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dist
Day – 3	How effective is ethylene absorber sachets to delay ripening and rotting of mangoes under ambient condition?	Mangoes are harvested in June-July under humid conditions and high temperature (more than 40 degree celsius). Due to the lack of cold storage and cold chain in Nepal, farmers are not able to reach urban markets. I am looking to understand if using ethylene absorber sachets can enable them to reach distant markets.	N. Ganesh Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dist
Day – 4	What is the relationship between root depth and root propagation with the growth of shoot system of a plant?	I wonder that if I would know the mathematical relationship to find the root propagation of a fibrous rooted coconut tree (Coccus nucifera) or a tap rooted mango tree (Mangifera indica) then I can excavate the entire plant safely and install it in a better place if need to have a building construction where already a tree was planted.	N. Ganesh Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dist
Day – 5	How to use Sio2 as a foliar application for plants?	Silicon is a multi talented element carrying several different benefits for horticultural plants. Previous reports revealed that using calcium or sodium silicate as a foliage application is increasing the photosynthetic rate. However, it isn't dissolved in water.	N. Ganesh Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dist
Day – 6	How ash helps in controlling pest,disease control ,is it good to apply or not ?	we all know that it is our traditional practice which we are performing in any problem in our kitchen garden to farm level is it good to apply or not, how it is good or what are its effects.	N. Ganesh Village Revenue Officer (Gr-II) Grama Sachivalayam Penumaka-1 Tadepalli Mandal, Guntur Dist

WEEKLY REPORT

WEEK – 5 (From Dt..... to Dt... .....)

Objective of the Activity Done:
Detailed Report: Final solution for the problem statement
Horticulture is a science, as well as, an art of production, utilisation and improvement of horticultural
crops, such as fruits and vegetables, spices and condiments, ornamental, plantation, medicinal field
and aromatic plants. Horticultural crops require intense care in planting, carrying out intercultural
operations, manipulation of growth, harvesting, packaging, marketing, storage and processing.
In India, about 55–60 per cent of the total population depends on agriculture and allied activities
The term horticulture is derived from two Latin words hortus, meaning 'garden', and cultura meaning 'cultivation'
Features and importance:
(a) Horticulture crops are a source of variability in farm produce and diets.
(b) They are a source of nutrients, vitamins, minerals, flavour, aroma, dietary fibres, etc.
(c) They contain health benefiting compounds and medicines.
(d) The comparative production per unit area of horticultural crops is higher than field crops, e.g., paddy crop
gives a maximum yield of only 30 q/ha, while banana crop gives 300–450 q/ha and grapes 90–150 q/ha

CHAPTER 5: OUTCOMES DESCRIPTION

Details of the Socio-Economic Survey of the Village/Habitation. Attach the questionnaire prepared for the survey.

• Sites, Sampling and Schedule of Survey
• Pre-interview Survey
• Survey Schedule of Actual Interview Survey and Mobilization of Subletting Team
• Training of the Surveyors
• what are the risks of erosion
• what is the actual importance of erosion (volume of sediments), its causes and the quantity of soil lost
• what are the damaging effects from the physical, economic and social points of view, of the various ways of utilization

Describe the problems you have identified in the community

Resource use efficiency
Integrated Pest and Disease Management
Post – Harvest Management
Toward net – zero Horticulture
Year - round supply
Resources with sub-optimal skills are matched
Major challenges facing the commercial horticulture
Quality control and quality assurance
Integrated pest and disease management
Low cost or low tech greenhouse
Less expensive greenhouse without fan and pad

Short-term and long term action plan for possible solutions for the problems identified and that could be recommended to the concerned authorities for implementation.

Short term measures -
1) Use of water efficient technology in irrigation such as Drip irrigation and Sprinkler irrigation
2) Use of HYV seeds to increase productivity
3) Use of biotechnology in GM crops such as BT-cotton and BT-brinjal .
4) Soil health card can be used as determinitic factor in fertilizer decision . It will improve the qualirty of soil
5) Avoid soil erosion through varous methods like - contor binding and terracing which will help in agriculture failure
Long Term Meassures -
1) Comprehensive National seed policy is need of hour which can envisage the HYV
2) Reform in APMC act is required to prevent the leakages and enhance transparency and accountability
3) proper market should be available for farmers . It can be increased through mega food parks etc

Description of the Community awareness programme/s conducted w.r.t the problems and their outcomes.

Resource use efficiency
Changing environmental conditions are impacting horticultural production, particularly the availability of necessary resources. A key issue facing horticulture in almost all areas of the world is water availability
Integrated Pest and Disease Management.
Emerging pests and pathogens and increasing pesticide resistance continue to pose significant challenges to horticulture
Post – Harvest Management.
In recent times, there has been a shift toward the consumption of fresh rather than frozen produce.
Toward net – zero Horticulture.
Developing innovative methods contributing to net-zero horticulture need baseline data on the environmental footprint of individual processes in primary production and immediate post-harvest management.
Year - round supply.
Consumers now expect year-round provision of safe, nutritious fruit and vegetables, and cut-flowers, which is primarily achieved through a combination of locally-produced and imported crops via storage and long-distance transportation.

Report of the mini-project work done in the related subject w.r.t the habitation/village.

A mini-project work in the related subject w.r.t the habitation/village. (For ex., a student of Botany may do a project on Organic Farming or Horticulture or usage of biofertilizers or biopesticides or effect of the inorganic pesticides, etc. A student of Zoology may do a project on Aquaculture practices or animal husbandry or poultry or health and hygiene or Blood group analysis or survey on the Hypertension or survey on the prevalence of diabetes, etc.

The Report shall be limited to 6 pages.

Vegetative propagation:

Asexual or vegetative reproduction is based on the ability of plants to regenerate tissues and parts. In many plants vegetative propagation is a completely natural process; in others it is an artificial one. Vegetative propagation has many advantages. These include the unchanged perpetuation of naturally cross-pollinated or heterozygous plants and the possibility of propagating seedless progeny. This means that a superior plant may be reproduced endlessly without variation. In addition, vegetative propagation may be easier and faster than seed propagation, because seed dormancy problems are eliminated and the juvenile nonflowering stages seed-propagated plants is eliminated or reduced. However, vegetative propagation can result exact genetic clones to one another, making them identically susceptible to diseases.

Apomixis:

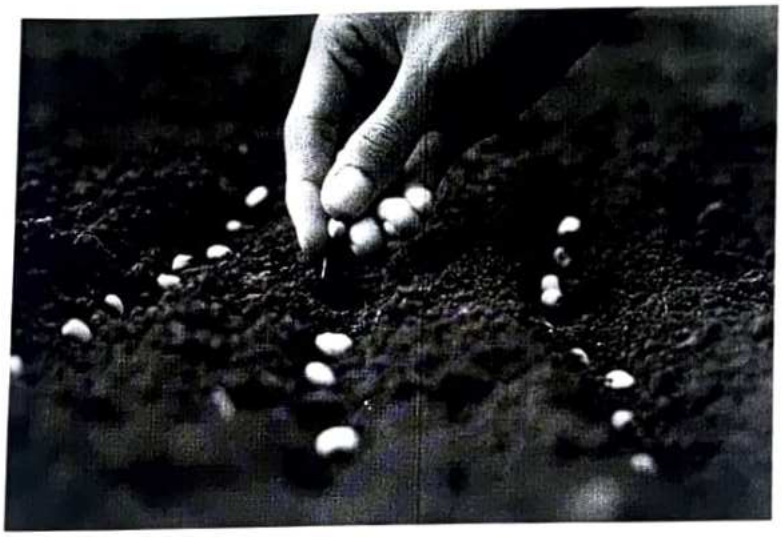
Apomixis, the development of asexual seed (seed not formed via the normal sexual process), is a form of vegetative propagation for some horticultural plants including Kentucky bluegrass, mango, and citrus. Virus-free progeny can be produced in oranges from a seed that is formed from the nucellus, a maternal tissue.

Layering and cutting:

Propagation can be accomplished by methods in which plants are induced to regenerate missing parts, usually adventitious roots or shoots. When the regeneratedpart is still attached to the plant the process is called layerage, or layering; when the regenerating portion is detached from the plant the process is called cuttage, or cutting.

Seed propagation:

The most common method of propagation for self-pollinated plants is by seed. In self-pollinated plants, the sperm nuclei in pollen produced by a flower fertilize egg cells of a flower on the same plant. Propagation by seed is also used widely for manycross-pollinated plants (those whose pollen is carried from one plant to another).



The ability of stems to regenerate missing parts is variable; consequently plants may be easy or difficult to root. The physiological ability of cuttings to form roots is due toan interaction of many factors. These include transportable substances in the plant itself: plant hormones (such as auxin), carbohydrates, nitrogenous substances, vitamins, and substances not yet identified. Environmental factors such as light, temperature, humidity, and oxygen are important, as are age, position, and type of stem.

Cherry graft:

Grafting involves the joining together of plant parts by means of tissue regeneration. The part of the combination that provides the root is called the stock; the added piece is called the scion. When more than two parts are involved, the middle piece is called the interstock. Whenthe scion consists of a single bud, the process is called budding.
Grafting and budding are the most widely used of the vegetative propagation methods.

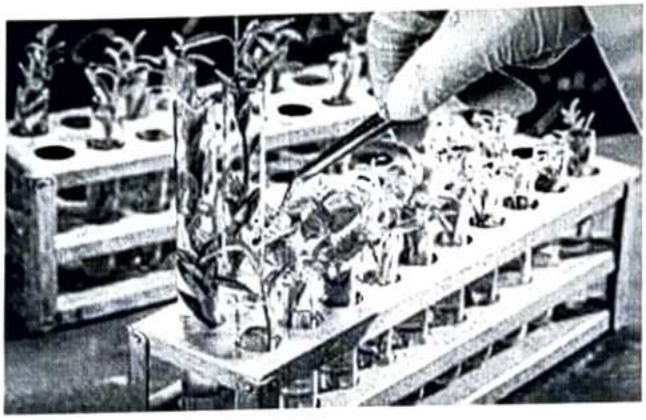
Stock cambium and scion cambium respond to being cut by forming masses of cells (callus tissues) that grow over the injured surfaces of the wounds. The union resulting from interlocking of the callus tissues is the basis of graftage. In dicots (e.g., most trees) cambium—a layer of actively dividing cells between xylem (wood) and phloem (bast) tissues—is usually arranged in a continuous ring; in woody members, new layers of tissue are produced annually. Monocot stems (e.g., orchids) do not possess a continuous cambium layer or increase in thickness; grafting is seldom possible.

The basic technique in grafting consists of placing cambial tissues of stock and scion in intimate association, so that the resulting callus tissue produced from stock and scion interlocks to form a living continuous connection. A snug fit can be obtained through the tension of the split stock and scion or both. Tape, rubber, and nails can be used to achieve close contact. In general, grafts are only compatible between the same or closely related species. Success in grafting depends on skill in achieving a snug fit. Warm temperatures (27–30 °C [80–85 °F]) increase callus formation and improve "take" in grafting. Thus, grafts using dormant material are often stored in a warm moist place to stimulate callus formation.

In grafting and budding, the rootstock can be grown from seed or propagated asexually. Within a year a small amount of scion material from one plant can produce hundreds of plants.

Breeding:

The isolation and production of superior types known as cultivars are the very keystones of horticulture. Plant breeding, the systematic improvement of plants through the application of genetic principles, has placed improvement of horticultural plants on a scientific basis. The raw material of improvement is found in the great variation that exists between cultivated plants and related wild species. The incorporation of these changes into cultivars adapted to specific geographical areas requires a knowledge of the theoretical basis of heredity and art and the skill to discover, perpetuate, and combine these small but fundamental differences in plantmaterial.



The goal of the plant breeder is to create superior crop varieties. The cultivated variety, or cultivar, can be defined as a group of crop plants having similar but distinguishable characteristics. The term cultivar has various meanings, however, depending on the mode of reproduction of the crop. With reference to asexually propagated crops, the term cultivar means any particular clone considered of sufficient value to be graced with a name. With reference to sexually propagated crops, the concept of cultivar depends on the method of pollination. The cultivar in self-pollinated crops is basically a particular homozygous genotype, a pure line. In cross-pollinated crops the cultivar is not necessarily typified by any one plant but sometimes by a particular plant population, which at any one time is composed of genetically distinguishable individuals.

Environmental control:

Control of the natural environment is a major part of all forms of cultivation, whatever its scale. The basic processes involved in this task have already been described in a preceding section on the principles of gardening, and these also apply to horticulture. The scale, intensiveness, and economic risk in commercial gardening and nurseries, however, often require approaches markedly different from those of the small home garden; and some of these are described here.

The intensive cultivation practiced in horticulture relies on extensive control of the environment for all phases of plant life. The most basic environmental control is achieved by location and site: sunny or shady sites, proximity to bodies of water, altitude, and latitude.

Structures:

Various structures are used for temperature control. Cold frames, used to start plants before the normal growing season, are low enclosed beds covered with a removable sash of glass or plastic. Radiant energy passes through the transparent top and warms the soil directly. Heat, however, as long-wave radiation, is prevented from leaving the glass or plastic cover at night. Thus heat that builds up in the cold frame during the day aids in warming the soil, which releases its heat gradually at night to warm the plants. When supplemental heat is provided, the structures are called hotbeds. At first, supplemental heat was supplied by respiration through the decomposition of manure or other organic matter. Today, heat is provided by electriccables, steam, or hot-water pipes buried in the soil.

Greenhouse:

Greenhouses are large hotbeds, and in most cases the source of heat is steam. While they were formerly made of glass, plastic films are now extensively used.

Modern greenhouse ranges usually have automatic temperature control. Summer temperatures can be regulated by shading or evaporative "fan-and-pad" cooling devices. Air-conditioning units are usually too expensive except for scientific work. Greenhouses with precise environmental controls are known as phytotrons and can be used for plants with specific growing requirements or for scientific experiments and environmental modeling. Other environmental factors are controlled through automatic watering, regulation of light and shade, addition of carbon dioxide, and the regulation of fertility.

Shade houses are usually walk-in structures with shading provided by lath or screening. Summer propagation is often located in shade houses to reduce excessive water loss by transpiration.

Temperature control:

A number of temperature-control techniques are used in the field, including application of hot caps, cloches, plastic tunnels, and mulches of various types. Hot caps are cones of translucent paper or plastic that are placed over the tops of plants in the spring. These act as miniature greenhouses. In the past small glass sash called cloches were placed over rows to help keep them warm. Polyethylene tunnels supported by wire hoops that span the plants are now used for the same purpose. As spring advances the tunnels are slashed to prevent excessive heat buildup. In some cases the plastic tunnels are constructed so that they can be opened and closed when necessary.

Frost control:

Frost is one of the high-risk elements for commercial growers, and the problem is accentuated by the fact that growers are striving to produce early-season crops. The precautions are consequently far more elaborate and costly than those of the domestic garden. Frost is especially damaging to perennial fruit crops in the spring because flower parts are sensitive to freezing injury and to tender transplants. The two weather conditions that produce freezing temperatures are rapid radiational cooling at night and introduction of acold air mass with temperatures below freezing. Radiation frost occurs when the weather is clear and calm; air-mass freezes occur when it is overcast and windy.

Frost-control methods involve either reduction of radiational heat loss or conservation or addition of heat. Radiational heat loss may be reduced by hot caps, cold frames, or mulches. Heat may also be added from the air. Wind machines that stir up the air, for example, provide heat when temperature inversions trap cold airunder a layer of warm air. These have been used extensively in citrus groves. Heat may be added directly by using heaters, usually fueled with oil.

Sprinkler irrigation can also be used for frost control. The formation of ice is accompanied bythe release of large amounts of heat, which maintains plants at the freezing temperature as long as the water is being frozen. Thus continuous sprinkling during frosty nights has been used to protect strawberries from frost injury.

Light control:

Light has a tremendous effect on plant growth. It provides energy for photosynthesis, the process by which plants, with the aid of the pigment chlorophyll, synthesize carbon compounds from water and carbon dioxide. Light also influences a great number of physiological reactions in plants. At energy values lower than those required for photosynthesis, light affects such processes as dormancy, flowering, tuberization, and seed-stalk development. In many cases these processes are affected by the length of day; the recurrent cycle of light is known as the photoperiod.

The control of light in horticultural practices involves increasing energy values for photosynthesis and controlling day length. Light is controlled in part by site and location. In the tropics day length approaches 12 hours throughout the year, whereas in polar regions it varies from zero to 24 hours. Light is also partly controlled by plant distribution and density.

Supplemental illumination in greenhouses increases photosynthesis. The cost of power to supply the artificial light, however, makes this impractical for all but cropsof the highest value. Fluorescent lights are the most efficient for photosynthesis; special lights, rich in the wavelengths required, are also available.

Soil management:

The principles involved here are again similar to those of home gardening. But the financialconsiderations of horticulture naturally require a more scientific approach to soil care. To besuccessful, the grower must ensure the economic use of every square yard of ground, especially because the cost of sound horticultural land is among the highest of any in agriculture. Crop rotation is planned to ensure that the soil is not depleted of essential chemicals by repeated use of one type of plant in the same plot. Soil analysis is employed so that any such depletion can be rectified promptly. Fertilizers are applied in a precise routine and, of course, in a variety beyond the reach or needs of the ordinary gardener. They are frequently applied through leaves or stems in the form of chemical sprays.

Water management:

Depending on the terrain, water management may involve extensive works for irrigation and drainage. While the home gardener may well be content with a rough-and- ready appraisal of the wetness or dryness of the soil, horticulture is more exacting. Production of the high-quality fruits and vegetables demanded by the modern market requires a precise all-year balance of soil moisture, adjusted to the needs of the particular crop. These considerations apply whether the grower is situated in a high-rainfall area of Europe or in the parched land of the southwesternUnited States or Israel.

There are a number of general methods of land irrigation. In surface irrigation water is distributed over the surface of soil. Sprinkler irrigation is application of water under pressure as simulated rain. Subirrigation is the distribution of water to soil below the surface; it provides moisture to crops by upward capillary action. Trickle irrigation involves the slow release of water to each plant through small plastic tubes. This technique is adapted both to field and to greenhouse conditions.

CHAPTER 6: RECOMMENDATIONS AND CONCLUSIONS OF THE MINI PROJECT

Conclusion:

Horticultural research has a major role to play in the improvement of the horticultural industry in Kenya. For the farmers to produce good quality fruits and vegetables for the export market, research should focus on the identification of high-yielding varieties adaptedto different agroecological zones; availability of good quality planting material of the selected varieties and development of production and post-harvest technologies. Emphasis should be placed on maturity indices, post-harvest physiology, pathology and sea shipment. There is a need to diversify exports, train producers and conduct market studies. This could be done by KARI, HCDA and the Ministry of Agriculture.

There is concern that agricultural production in developing countries will cause environmental threats in the future, as production will have to increase to satisfy the growing demand for food. Intensification leads to high inputs of nutrients in the form of mineral fertilizers and animal feed. Important parts of these inputs leak from the system in the form of nutrient leaching to groundwater and gaseous losses to the atmosphere. Pressure on the existing agricultural land may increase by growing demand for productive land and degradation of the existing agricultural land base. Expansion of agriculture generally leads to massive deforestation.

The study presented in this report concentrated on the interactions between livestock production, crop production and land use. The link between livestock and crop production is through the demand for animal feedstuffs. This report presents long-term scenarios describing these interactions and the possible consequences for crop production and animal waste production. As the world population is expected to stabilize in the second half of the twenty-first century, the scenarios must cover a period of 50-100 years to include the impacts of human population numbers.

Student Self-Evaluation for the Community Service Project

Student Name: M. Jaya Rajesh, Ch. Durga Prasad, B. Ravi Teja

Registration No: 21H75A0323, 313, 349

Period of CSP: From: To:

Date of Evaluation: 10/02/2023

Name of the Person in-charge: Mr. N. Vamsi
Address with mobile number: Penumaka, Tadepalli. Ph: 7842537317.

Please rate your performance in the following areas:

Rating Scale: **1 is lowest and 5 is highest rank**

1) Oral communication	**1**	**2**	**3**	**4**	**5**
2) Written communication	**1**	**2**	**3**	**4**	**5**
3) Proactiveness	**1**	**2**	**3**	**4**	**5**
4) Interaction ability with community	**1**	**2**	**3**	**4**	**5**
5) Positive Attitude	**1**	**2**	**3**	**4**	**5**
6) Self-confidence	**1**	**2**	**3**	**4**	**5**
7) Ability to learn	**1**	**2**	**3**	**4**	**5**
8) Work Plan and organization	**1**	**2**	**3**	**4**	**5**
9) Professionalism	**1**	**2**	**3**	**4**	**5**
10) Creativity	**1**	**2**	**3**	**4**	**5**
11) Quality of work done	**1**	**2**	**3**	**4**	**5**
12) Time Management	**1**	**2**	**3**	**4**	**5**
13) Understanding the Community	**1**	**2**	**3**	**4**	**5**
14) Achievement of Desired Outcomes	**1**	**2**	**3**	**4**	**5**
15) OVERALL PERFORMANCE	**1**	**2**	**3**	**4**	**5**

Date:

Signature of the Student
M. Jaya Rajesh
CH Durga prasad.
B. Ravi Teja

Evaluation by the Person in-charge in the Community/Habitation

Student Name: M. Jaya Rajesh

Registration No: 21H75A0323

Period of CSP: From: To:

Date of Evaluation: 10/02/2023

Name of the Person in-charge:
Address with mobile number:

Please rate the student's performance in the following areas:

Please note that your evaluation shall be done independent of the Student's self-evaluation

Rating Scale: **1 is lowest and 5 is highest rank**

1) Oral communication	1	2	3	4	5
2) Written communication	1	2	3	4	5
3) Proactiveness	1	2	3	4	5
4) Interaction ability with community	1	2	3	4	5
5) Positive Attitude	1	2	3	4	5
6) Self-confidence	1	2	3	4	5
7) Ability to learn	1	2	3	4	5
8) Work Plan and organization	1	2	3	4	5
9) Professionalism	1	2	3	4	5
10) Creativity	1	2	3	4	5
11) Quality of work done	1	2	3	4	5
12) Time Management	1	2	3	4	5
13) Understanding the Community	1	2	3	4	5
14) Achievement of Desired Outcomes	1	2	3	4	5
15) OVERALL PERFORMANCE	1	2	3	4	5

Date: 10/02/2023

N. [illegible]
Signature of the Supervisor
Village Revenue Officer (GP-II)
Grama Sachivalayam
Panumaka-1
Tadepalli Mandal, Guntur Dist

Evaluation by the Person in-charge in the Community/Habitation

Student Name: Ch. Durga Prasad

Registration No: 21H75A0313

Period of CSP: From: To:

Date of Evaluation: 10/02/2023

Name of the Person in-charge:
Address with mobile number:

Please rate the student's performance in the following areas:

Please note that your evaluation shall be done independent of the Student's self-evaluation

Rating Scale: **1 is lowest and 5 is highest rank**

1) Oral communication	**1**	**2**	**3**	**4**	**5**
2) Written communication	1	2	3	4	5
3) Proactiveness	**1**	**2**	**3**	**4**	**5**
4) Interaction ability with community	1	2	3	4	5
5) Positive Attitude	**1**	**2**	**3**	**4**	**5**
6) Self-confidence	1	2	3	4	5
7) Ability to learn	**1**	**2**	**3**	**4**	**5**
8) Work Plan and organization	1	2	3	4	5
9) Professionalism	**1**	**2**	**3**	**4**	**5**
10) Creativity	1	2	3	4	5
11) Quality of work done	**1**	**2**	**3**	**4**	**5**
12) Time Management	1	2	3	4	5
13) Understanding the Community	**1**	**2**	**3**	**4**	**5**
14) Achievement of Desired Outcomes	1	2	3	4	5
15) OVERALL PERFORMANCE	**1**	**2**	**3**	**4**	**5**

Date: 10/02/23

N. Durga Prasad
Signature of the Supervisor
Village Revenue Officer (Gr-II)
Grama Sachivalayam
Penumaka
Tadepalli Mandal, Guntur

Evaluation by the Person in-charge in the Community/Habitation

Student Name: B. Ravi Teja

Registration No: 21H75A0349

Period of CSP: From: To:

Date of Evaluation: 10/02/2023

Name of the Person in-charge:
Address with mobile number:

Please rate the student's performance in the following areas:

Please note that your evaluation shall be done independent of the Student's self-evaluation

Rating Scale: **1 is lowest and 5 is highest rank**

1) Oral communication	1	2	3	4	5
2) Written communication	1	2	3	4	5
3) Proactiveness	1	2	3	4	5
4) Interaction ability with community	1	2	3	4	5
5) Positive Attitude	1	2	3	4	5
6) Self-confidence	1	2	3	4	5
7) Ability to learn	1	2	3	4	5
8) Work Plan and organization	1	2	3	4	5
9) Professionalism	1	2	3	4	5
10) Creativity	1	2	3	4	5
11) Quality of work done	1	2	3	4	5
12) Time Management	1	2	3	4	5
13) Understanding the Community	1	2	3	4	5
14) Achievement of Desired Outcomes	1	2	3	4	5
15) OVERALL PERFORMANCE	1	2	3	4	5

Date: 10/02/2023

Signature of the Supervisor

Village Revenue Officer (Gr-II)
Grama Sachivalayam
Penumarru
Tadepalli Mandal, Guntur Dist

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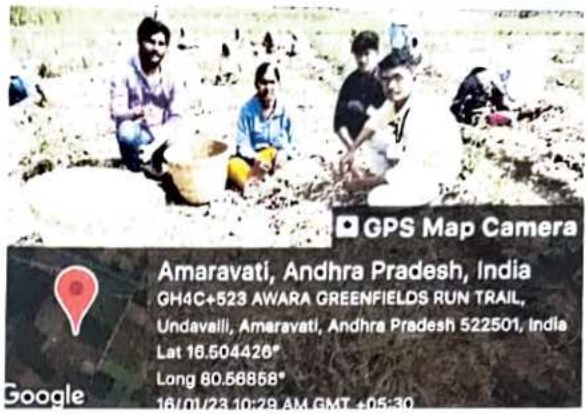
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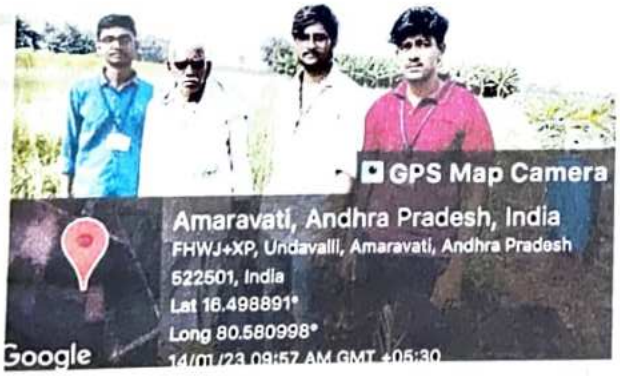
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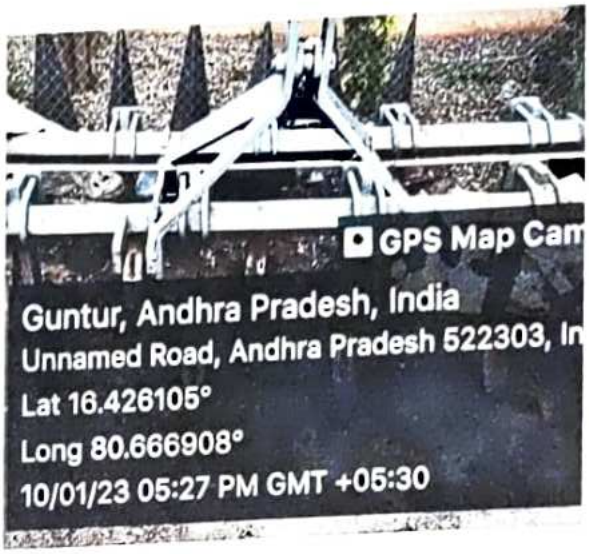
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GPS Map Camera
Amaravati, Andhra Pradesh, India

BOARD FOR COMMUNITY DEVELOPMENT *through* EDUCATION
GOVERNMENT OF ANDHRA PRADESH
2nd floor, Neeladri Towers, Sri Ram Nagar, 6th Battalion Road, Atmakur (V), Mangalagiri (M),
Guntur Dt. A.P.– 522 503, E-mail: secretarybcd2021@gmail.com; Mobile: 9440285609

HOME ENERGY AUDIT - WORKSHEET

OBJECTIVES:

To estimate Energy consumption for a house;

To understand peak energy consumption pattern;

To identify ways and means of Energy Conservation;

To propose action plan for Energy Conservation;

To measure the savings after implementation of Energy conservation tips.

INTRODUCTION:

Energy is an important commodity in this modern era. As the utility of energy is continuously increasing due to reasons like population growth, increase in usage of electrical equipment, mechanization, enhancement in comfort living requirements etc., The Energy production is not increasing to meet such peak increase in usage of Energy. It is leading to huge gap between Energy Demand and Supply. Hence it is every citizens responsibility to reduce the gap between energy demand and supply by conserving energy as much as possible. In order to implement energy conservation it is necessary to understand the consumption patterns and possible avenues of conservation. Energy Audit is one best way to achieve this.

An energy audit is a way to calculate how much energy being used at home. It will help the citizen to identify how much energy each home uses and where could be saving energy possible. It is the first step to making the home, the school or any other area more energy efficient.

Activity 1: Calculate the Amps and energy used by all of these appliances in one day:

Equation for calculating energy:

- Energy (kWh) = (Power (watts) x time x number of appliances) ÷ 1000

Appliance	Power (W)	Number of appliances	Time used (hour)	Energy (kWh)
Ceiling Fan	**80W**	**2**	**5**	**(80 x 5x 2) ÷ 1000 = 0.8 kWh**
Desktop computer	300W	1	4	(300x 4x1)÷1000 = 0.11Kwh
LED bulb	10W	2	7	(10x7x2)÷1000=0.14Kwh
Tube light	40W	3	8	(40x8x3)÷1000=0.96 Kwh
Television	200 W	1	6	(200x6x1)÷1000=0.64Kwh
Washing Machine	320W	1	2	(320x2x1)÷1000=1.2 Kwh
Microwave	1400W	1	3	(1400x3x1)÷1000=4.2Kwh
Refrigerator	2000W	1	10	(2000x10x1)÷1000 = 20Kwh
Immersion Water Heater	1000W	1	3	(1000x3x1)÷1000=3Kwh
Geyser	3000W	1	4	(3000x4x1)÷1000=12Kwh

Activity 2: Questions

1. Which were the three appliances that used the most energy? What are they used for ?

water heater, lighting, washing machine are the appliances that are used the most energy it is home appliances

2. a) What was the total energy used by all of the appliances (tip – add up all of the energy (kWh) values):

*** Note – it is likely that your energy usage may be higher than the calculated value as you may have other appliances that are not included in this table. This worksheet provides an approximate value.**

(1.2+0.14+0.96+12+0.64+4.24+20+3+12) Kwh = 43.34 Kw

b) Calculate how many kWh of energy are consumed on average in a month (tip - multiply your total energy used by all appliances by the number of days in the month).

43. 34 x 430 = 1300.2

c) **Check your electricity bill and compare it to the monthly energy usage that you calculated.**

Your total monthly energy usage from your calculation in 2(b)	1300.2
Your total monthly energy usage from electricity bill	1400

An average household in Mumbai city consumes 298kWh of electricity every month and releases about 244kgs of CO_2e (1kWh releases 0.82 kg CO_2e)

3. Write down ideas for reducing energy consumption for appliances in each category:

Device	Ideas to reduce energy
Example: Washing Machine	I could hand wash my clothes some days. Also, I could make sure my family runs bigger loads of washing so that we do not waste water.
Heating and cooling	close all the vents in the lower areas, use ceiling fans for air cieling fans for air circulation, seal creries of cracks
Screen-based	screen based is known to use less power because the LED's make up each pixel are other where displaying white means the LED's need to the line & consume power
Lighting	**Did you know, switching off a device from the source at plug reduces consumption of electricity by an average of 10%** Keep the windows clean & open the blonds install times & sensors save lighting. Multiple switches

4. Choose two ways that you will reduce your energy bill by 10. %

put your decorative lights on a time, replace traditional light bulbs with LED's sum of lights & electronics reduce.

appliances use less hot water

CONDUCT SIMILAR STUDY AFTER IMPLEMENTING THE ENERGY CONSERVATION MEASURES AND MONITOR HOW MUCH IS THE SAVING.

5. Comparing electricity bills before and after your energy conservation efforts:

Before:	147.43
After one month:	100
Total money saved:	474.3

TOTAL ENERGY SAVINGS FOR THE WARD / VILLAGE AND ALSO REDUCTION IN CARBON EMISSIONS MAY BE CALCULATED AND SUBMITTED TO THE FACULTY MENTOR / WARD / VILLAGE SECRETARY.

THE SAME CAN BE SUBMITTED IN THE FORMAT OF COMMUNITY SERVICE PROJECT AT COLLEGE

BOARD FOR COMMUNITY DEVELOPMENT *through* EDUCATION
GOVERNMENT OF ANDHRA PRADESH
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ELECTRICAL ENERGY - SAVING TIPS

(Source: BEE India)

LIGHTING SYSTEM

1. One of the best energy-saving devices in lighting is the switch. Turn off lights when not required.
2. Efficient Fluorescent tube lights such as T5, CFLs and LEDs are much more efficient than incandescent bulbs and can save about 60-80% of electricity for the same lighting levels.
3. Electronic ballasts can reduce power consumption by 20%.
4. Consider employing infrared sensors, motion sensors, automatic timers, dimmers and photocells switches wherever applicable for efficient use. Use outdoor lights with timers or photocells so that they turn off automatically in day light and avoid using curtains during the day.
5. Use task lighting, which focuses light where it is needed. A reading lamp, for example, lights only reading material rather than the whole room.
6. Dirty tube lights and bulbs deliver less light and can absorb about 50 percent of the light; dust tube lights and lamps regularly.
7. Look for BEE rating on the Tubular Fluorescent Lamps.
8. Use artificial lighting only when there is inadequate natural light in a space.
9. Don't replace tube lights (line source) which light over a larger linear spread with a bulb (point source) that emits light from a single point.
10. Don't use dark-colored surface in workrooms. These reduce the reflected light levels and increase the number of lamps required to illuminate the space.
11. Children are advised to study in one room and with individual table lamps and advise them to switch off the individual lamps when not required. Children to utilize morning hours & broad day light for studies rather than using artificial light.
12. Switch off alternate tube Lights/lamps in common areas and staircases during late hours in the night.
13. Please note, a 'Zero Watt' incandescent bulb uses about 10 to 15 watt while an LED bulb of 9 watt can provide light output equivalent to 60 watt incandescent bulb.

CEILING FAN

1. Replace conventional regulators with electronic regulators for ceiling fans.
2. Height of the fan relative to the ceiling. If fan is too close to the ceiling, the airflow is restricted; that is, the fan will not be able to draw as much air through its blade as it has the potential to do. For this reason, 'Hugger' style fans (those which mounted directly to the ceiling without the use of down rod) are all inherently disadvantaged. The distance that a fan should be mounted form the ceiling is directly correlated with its air moving potential; no fan should be mounted with its blade closer than 24 inches to the ceiling.
3. Pitch of the fan's blades. The angle at which the fan's blades tilted relative to X axis is referred to as the blade pitch. The steeper the pitch, the greater the air flow.
   Since increased pitch also means increased drag, only fans with well-made motors can support steep pitches. Cheaply made fans typically have a pitch between 9 and 13 degrees.

AIR CONDITIONER

1. Use BEE star labeled products.
2. Use ceiling or table fan as first line of defense against summer heat. Ceiling fans, for instance, cost about 3 rupees an hour to operate – much less than air conditions (Rs.100 per hour).
3. One will use 3 to 5 per cent less energy for each degree air conditioner is set above 22°C (71.5°F), so far set the thermostat of room air conditioner at 25°C (77°F) to provide the most comfort at the least cost.
4. Reduce air-conditioning energy use by as much as 40 per cent by shading your home as windows and walls. Plant trees and shrubs, to keep the day's hottest sun off your house.
5. Using ceiling or room fans allows you to set the thermostat higher because the air movement will cool the

room.

6. A good air conditioner will cool and dehumidify a room in about 30 minutes, so use a timer and leave the unit off for some time.
7. Clean the air-conditioner filter every month. A dirty air filter reduces airflow and may damage the unit. Clean filters enable the unit to cool down quickly and use less energy.
8. Have your air conditioning unit checked every 6 months. If the Freon level is not correct, you will waste a lot of energy and your home will never be as cool as you want it.
9. The gaps around the windows and doors leads to A C loss. You can use a candle to look for drafts. It the flame flickers or dances, found the place to seal.
10. Draperies on windows help reduce energy loss.
11. Use electronic devices with occupancy sensors which switch on or off automatically by sensing if the room is occupied.
12. Switch to evaporative coolers from air conditioners during hot/dry summer months.
13. Buy split ACs instead of window ACs. They cost more, but they are more energy efficient and consume lesser electricity.
14. Do not install AC units on the west and south walls as these are exposed to direct sunlight through a major part of the day during summers.
15. Do not apply dark colors on the external surfaces (roof and walls) of the house. Dark colors absorb more heat than light colors, leading to increased use of the AC.
16. Ensure that the condenser of the unit must have enough space around it for air to circulate and help the refrigerant dissipate its heat easily.

REFRIGERATOR

1. Use BEE star labelled products.
2. Keep your refrigerator and freezer at the right temperature. If they are only 2-3 degrees colder than necessary, energy consumption may go up by approx 25%.
3. Make sure the door is sealed tightly. When it's dark, place a lit flashlight inside the refrigerator and close the door. If light around the door is seen, the seals need to be replaced.
4. Make sure that the refrigerator is not place against outside facing wall or walls exposed to the direct sunlight.
5. Refrigerator motors and compressors generate heat, so allow enough space for continuous airflow around refrigerator. If the heat can't escape, the refrigerator's cooling system will work harder and use more energy.
6. Do no put uncovered liquids in the refrigerator. The liquids give off vapors that add to the compressor workload.
7. Allow hot food to cool off before putting it in the refrigerator.
8. Think about what you need before opening refrigerator door. You'll reduce the amount of time the door remains open.
9. Make sure that refrigerator's rubber door seals are clean and tight. They should hold a slip of paper snugly. If paper slips out easily, replace the door seals.
10. When dust builds up on refrigerator's condenser coils, the motor works harder and uses more electricity. Clean the coils regularly to make sure that air can circulate freely.
11. Defrost freezer compartment regularly for a manual defrost refrigerator.
12. Make sure that you are using a refrigerator that is approximately sized for your needs. If your fridge is too small, you may be overworking. If it is too large, then you are potentially wasting energy and home space.

OVENS / MICROWAVE OVEN

1. Microwaves use around 50% less energy than conventional ovens: they are most efficient for small portions or defrosting.
2. Check the seal on your oven door to see if there are cracks or tears in it.
3. Develop the habit of 'lids-on' cooking to permit lower temperature settings.
4. Carefully measure water used for cooking to avoid having to heat more than is needed.
5. Begin cooking on highest heat until liquid begins to boil. Then lower the heat control settings and allow food to simmer until fully cooked.

6. Rearrange oven shelves before turning your oven on and don't peep at food in the oven! Every time you open the oven door, 4°-5° is lost
7. When preheating an oven for baking, time the preheat period carefully. Five to eight minutes should be sufficient.
8. For large items, stove-top cooking is most efficient, especially with gas.
9. For large items, stove-top cooking is most efficient, especially with gas.

WASHING MACHINES

1. Washing machines can account for as much as 20% of the electricity you use.
2. Use Cold water, as almost 90% of the energy consumed by washing machines goes to heating the water. Set the washing machine temperature to cold or warm and the rinse temperature to cold as often as possible.
3. Each was cycle uses up to 60 to 90 liters of water. Use washing machine on full load and plan washing periodicity to save on water too.
4. Adding too much detergent actually hampers effective washing action and may require more energy in the form of extra rinses.
5. Wash only full loads of clothing-but do not overload machine. Sort laundry and schedule washes so that a complete job can be done with a few cycles of the machine carrying its full capacity, rather than a greater number of cycle with light loads.
6. Soak or pre-wash the cloths for effective cleaning.

COOKING

1. Organized cooking activity can save about 20% Energy.
2. Use right quantity of water required for cooking and reduce gas / kerosene usage by 65%.
3. Cook on low flame as far as possible and save 6 to 10% energy.
4. The pressure cooker should be loaded 2/3rd of the foodstuff is solid & hard and Â½ if loaded with liquid. Properly used pressure cookers can save up to 50 to 75% of energy as well as time.
5. Cook your food in solar cooker and save cost of 2 LPG Cylinders annually.
6. When cooking on a gas burner, use moderate flame settings to conserve LPG.
7. Remember that a blue flame means your gas stove is operating efficiently.
8. Yellowish flame is an indicator at the burner need cleaning.
9. Use pressure cooker as much as possible.
10. Use lids to cover the pans while cooking.
11. Bring items taken out of refrigerators (like vegetables, milk etc) to room temperature before placing on the gas stove for heating.

GEYSER / WATER HEATER

1. Install Solar Water Heating System.
2. By reducing the temperature setting of water heater from 60 degrees to 50 degrees C, one could save over 18 percent of the energy used at the higher setting.
3. To help reduce heat loss, always insulate hot water pipes, especially where they run through unheated areas. Never insulate plastic pipes.
4. A dripping faucet wastes water and if it's dripping hot water, its wasting energy too. Often requiring nothing more then a new washer, fixing leaks is one of the quickest and least expensive ways of reducing the energy and water bills.
5. Another way to reduce waste is to take showers or baths depending on which uses less hot water then baths, other way baths use more. They are both right. Which is correct for you depends on how long and hot your showers are and how deep deep and warm your baths are.
6. Using less hot water may be easier than you think. Water conserving shower heads and faucet aerators can cut hot water use inn half.. To see if this will work for you, first determine what your faucet and shower flow rates are now.
7. To select the right water heater for your home, you need to consider family size and whether your usage would be considered high or low demand. It is assumed that you know your family size, so all you have to determine is your usage profile.

COMPUTER

1. Computer that runs 24 hours a day, for instance, used-more power than an energy efficient refrigerator.
2. Screen savers save computer screens, not energy. Start-ups and shutdown do not use any extra energy, nor are they hard on your computer components. In fact, shutting computers down when you are finished using them actually reduces system wear and saves energy.
3. Purchase flat-screen LCD monitors.
4. Setting computers, monitors and copiers to sleep-mode when not in use helps cut energy costs by approximately 40%
5. Activate and standardize 'power down' on new and existing PCs
6. If your computer must be left on, turn off the monitor; this device alone uses more than half the system's energy.

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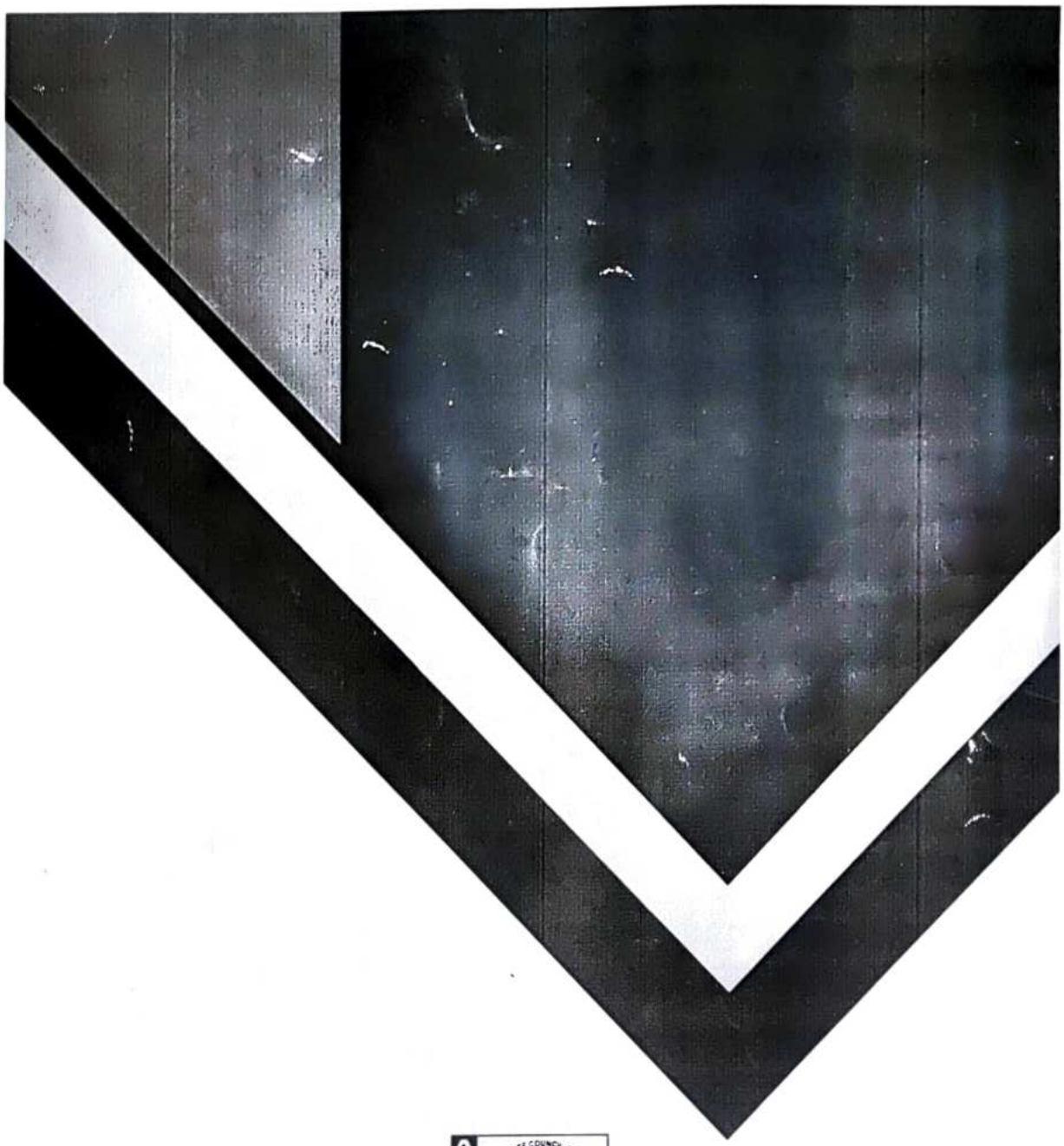

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