

A
COMMUNITY SERVICE PROJECT REPORT
ON

HORTICULTURE

Submitted in partial fulfilment of the requirements

For the award of the degree

Of

BACHELOR OF TECHNOLOGY

In

DEPARTMENT OF CSE (ARTIFICIAL INTELLIGENCE)

By

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**SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES
(Autonomous)**

**(Approved by AICTE & Affiliated to JNTUA, Ananthapuramu)
CHITTOOR-517127, A.P.**

DEPARTMENT OF CSE (ARTIFICIAL INTELLIGENCE)

(2025-26)



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(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu)
Chittoor-517127, A.P.

DEPARTMENT OF CSE (ARTIFICIAL INTELLIGENCE)

CERTIFICATE

This is to certify that the Community Service Project Report “**HORTICULTURE**” is a genuine work of

DAGGUPATI JAGADEESH BABU 23751A3132

Submitted to the department of CSE (Artificial Intelligence), in partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in CSE - Artificial Intelligence, during the academic year 2025-26.

Mrs. D. HARITHA,

Assistant Professor,

Prof. M. E. Palanivel,

Professor & HOD,

Submitted for Semester End Examination held on

INTERNAL EXAMINER

EXTERNAL EXAMINER

Student's Declaration

I am **DAGGUPATI JAGADEESH BABU**, a student of B. Tech., Reg. No. **23751A3132** of the Department of CSE (Artificial Intelligence), Sreenivasa Institute of Technology and Management Studies do hereby declare that I have completed the mandatory community service from **30-05-2025** to **28-06-2025** in **ADENAPALLI** under the Faculty Guide ship of **Mrs. D. HARITHA**, Assistant Professor, Department of CSE (Artificial Intelligence) in Sreenivasa Institute of Technology and Management Studies, Chittoor.

Faculty Guide: Mrs. D. Haritha

Head of the Department: Prof. M. E. Palanivel

CERTIFICATE FROM OFFICIAL OF THE COMMUNITY

This is to certify that **DAGGUPATI JAGADEESH BABU**, Reg.No.**23751A3132** of **Sreenivasa Institute of Technology and Management Studies, Chittoor, A.P**, underwent community service in **AdenaPalli, Tirupati** (district) from **30-05-2025 to 28-06-2025**.

The overall performance of the Community Service Volunteer during his/her community service is found to be _____ (Satisfactory/good).

Authorized Signature with Date and Seal

ACKNOWLEDGEMENTS

Any achievement, be it scholastic or otherwise does not depend solely on the individual effort but on the guidance, encouragement and cooperation of intellectuals, elders, and friends. I would like to take this opportunity to thank them all.

I feel myself honoured for placing my warm salutation to the management SITAMS, which gave me the opportunity to obtain a strong base in B. Tech and profound knowledge.

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We also express thanks to our supervisor **Mrs. D. HARITHA**, M.Tech., Assistant Professor, in Department of CSE (Artificial Intelligence) for encouraging me in doing this Community Service Project.

Finally, I would like to express my sincere thanks to all the Faculty Members of CSE (Artificial Intelligence) Department, and Lab Technicians, Friends & Family members, who all have motivated and helped me to do this Awareness.

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CHAPTER 1

EXECUTIVE SUMMARY

The project about Horticulture was I went to the location at place in AdenaPalli. In that village we went to the volunteer that we can discuss about my topic and finally we get the permission to do that project in that village.

On the next day, we went to meet the farmers and ask for the process and methods about Horticulture how to cultivate a crop by using aHorticulture method. They were explain and giving best suggestions and methods that what are the sources and materials and what are the natural resources that are used to cultivate the crops in natural method.

We participated and enjoyedthose activities happily and we found some insects and some plants are under attack on the diseases and we can observe some flowers are also affected by the diseases. Then we discuss the problems with agricultural officer and village farmers and there tell by using some natural chemicals we can quire the diseases that occur in those plants.

We can perform and observe that preparation and what are the natural resources that there are used to prepare that chemical in natural way. There sprays that natural chemical to that infected trees and trees and it will effect in few hours and there become normal and it will give good yield.

From this project, I understood the importance of flowers and how they contribute to nature and human life. I also learned how we can cultivate crops using natural methods and resources, which promotes sustainable agriculture and protects the environment. This project gave me valuable insights into the practices of horticulture and the significance of using eco-friendly techniques.

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

This project gives an idea about Horticulture those who are in the cities and other Peoples those who are don't know about Horticulture farming. This project is done in the village AdenaPalli Tirupati District in AP. In most of the farmers are using natural methods like cow manures and herd of goats and ducks into the farming or agricultural land.

We were participated and enjoyed those activities happily and we found some insects and some leaf's are under attack on the diseases and we can observe some branches are also affected by the diseases. Then we discuss the problems with agricultural officer and village farmers and there tell by using some natural chemicals we can quire the diseases that occur in those trees.

We can perform and observe that preparation and what are the natural resources that there are used to prepare that chemical in natural way. There sprays that natural chemical to that infected trees and trees and it will effect in few hours and there become normal and it will give good products.



Fig 2.1 Horticulture Farming

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 stills 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; 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.

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Fig 2.2 Starting State Of Horticulture Farming

CHAPTER 3

COMMUNITY SERVICE PART

Activities Done:

- Survey conducted in village.
- Conducted Community Awareness Campaign Project implemented in village, Create project report.

Values learnt:

- Cooperation
- Gratitude
- Respect
- Kindness
- Empathy

As part of our Community Service Project on horticulture, we visited the village of **AdenaPalli**, where we interacted with local farmers and gardening enthusiasts. We actively participated in horticultural activities such as planting flower saplings (like marigold, hibiscus, and rose), watering plants, removing weeds, and maintaining nursery beds.

We also conducted awareness sessions to educate the villagers about the benefits of horticulture in improving the local environment, providing livelihood through floriculture, and enhancing the aesthetic value of the surroundings. Emphasis was placed on using organic compost, natural pest control methods, and water-saving irrigation techniques.

This experience in AdenaPalli gave us hands on exposure to sustainable plant cultivation practices. It also helped in building a sense of social responsibility, teamwork, and the importance of preserving nature through eco friendly methods.

ACTIVITY LOG FOR THE FIRST WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	PERSON IN-CHARGE SGNATURE
Day-1 30-05-2025	I search for a village in which Horticulture is the major source of income for the people.	I come to know that Horticulture is the Source of income for many villages.	
Day-2 31-05-2025	I visited all villages near by me.	All the village people are honest and polite.	
Day-3 01-06-2025	I selected few villages Nearby me.	I felt peaceful atmosphere in village.	
Day-4 02-06-2025	I visited the selected villages and gathered few information.	I found that most of the farmers are using chemicals.	
Day-5 03-06-2025	I meet the some farmers in those villages and asked about Horticulture farming.	The village's farmers were helpful.	
DAY-6 04-06-2025	I gathered all the materials required for the community service.	I learnt a lot from the materials that we gathered.	

Objective of the Activity Done: Horticulture Farming

Detailed Report:

First, I am very excited to take part of community service project, in that I am doing Horticulture as a project. First, I started the project by searching the village in which the horticulture is major source of income for the people. And I visited all the villages near by me.

Finally, I selected some villages near by me. Then I visited the selected villages and gathered information about their agriculture and Horticulture farming. But I observed that most of the farmers are using chemical products for cultivation.

In village I experienced lot of things. The village atmosphere is peaceful, were the villages being the pollution free. Finally, I gather up required materials for the community service.

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 THE DAILY ACTIVITY	LEARNING OUTCOME	PERSON IN- CHARGE SGNATURE
Day-1 05-06-2025	Introduction to Horticulture and Explaining the use of the plants and animals wastages like cow dung and manures.	Horticulture is the art of cultivating plants in gardens to produce food and medicinal ingredients, or for comfort and ornamental purposes. And also I went to know that how that animal wastages are converted to fertilizers.	
Day-2 06-06-2025	Explained how to prepare panchagavya.	All the village people are very interested to learn.	
Day-3 07-06-2025	Preparation of panchagavya	Farmers are very excited to prepare.	
Day-4 08-06-2025	Visiting the rose, tomato, Chrysanthemum (Chamanti puvvu) fields in villages.	I found that most of the farmers are using chemicals.	
Day-5 09-06-2025	I meet the farmers in village and explained about benefits of panchagavya.	The village farmers were very helpful and cooperative.	
Day-6 10-06-2025	Creating awareness to the farmers about Horticulture fertilizers.	I learnt a lot from the materials that we gathered.	

Objective of the Activity Do: Collecting information from farmers.

Detailed Report:

I visited the fields of village. There are different types of crops are cultivating in the village. I go through the fields and explains the use of plants and animals wastages, I explained to the farmers how animal and plants are converted into the manures. Fertilizers etc.... Then I went to tomato crop field and meet that farmer and asked some questions about that crop.

And then next day I went to Rose plants and collected some information about that crop the farmers are very help full. I went to Chrysanthemum (Chamanti puvvu) field There they cultivated the Chrysanthemum (Chamanti puvvu) crop gathered some information in that fields the flowers smell and looking was very nice.

I created awareness to the farmers and farmers are also very interested and co- operative in the Horticulture farming. I felt very happy such a positive and interest on supporting the Horticulture farming.

Explained about the preparation of **panchagavya** Horticulture fertilizer and the farmers are very interested and excited to prepare the **panchagavya** fertilizer. Created awareness about Horticulture fertilizers. I am very happy to meet the farmers they are very helpful.

ACTIVITY LOG FOR THE THIRD WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	PERSON IN-CHARGE SGNATURE
Day-1 11-06-2025	Collecting different organic Horticulture fertilizers.	I learnt that Organic fertilizers are rich in nutrients then chemical fertilizers.	
Day-2 12-06-2025	Collecting information about Horticulture fertilizer neemastra and Vermicompost preparation and many more.	The farmers are in the methods that we proposed.	
Day-3 13-06-2025	Preparation of neemastra with natural material like neem leaves cow dung and some kinds of oils.	I learnt that how Horticulture farming does not affect the farmer health.	
Day-4 14-06-2025	We use Horticulture materials like neem past, cow dung, cow urine.	I learnt what are the various methods to prepare Horticulture fertilizers.	
Day-5 15-06-2025	Visiting marigold tomato crops in village.	We went to tomato and marigold crop and notified the diseases in that crop.	
Day-6 16-06-2025	Suggested the neemastra for the tomato crops.	I learnt that how that farmer working in the cultivating many crops.	

Objective of the Activity Done: Visiting the fields and Problem statement's

Detailed Report:

1. Visiting the fields:

I surprised to know that there are different Horticulture farming methods, they are Organic Farming, Conventional Farming, Precision Farming, Integrated Farming System (IFS), Hydroponics, Aeroponics, Greenhouse Farming, Polyhouse Farming, Vertical Farming, Tissue Culture Farming. Here I learnt how farmers do not cultivate the same crop on same land every year, Instead they grow different crops in rotation to compost is one of the best natural fertilizers used in Horticulture farming. Crop diversity is fundamental for agriculture plant growth.

2. Problem statement's:

- Knowing about problem statement and solutions.
- Resource use efficiency.
- Integrated Pest and Disease Management.
- Post – Harvest Management.
- Toward net – zero Horticulture.
- Year - round supply.
- A key issue facing horticulture in almost all areas of the world is water availability.

ACTIVITY LOG FOR THE FOURTH WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	PERSON INCHARGE SGNATURE
Day-1 17-06-2025	Resources with sub-optimal skills are matched and Collecting materials like cow dung, cow urine	Increase the availability of high quality and safe horticultural produce by developing improved crop management.	
Day-2 18-06-2025	Major challenges facing the commercial horticulture, making fertilizers by using collected materials.	I learnt that how this process and uses of fertilizers in horticulture.	
Day-3 19-06-2025	Brief explanation of Horticulture natural resources.	Natural resources are neem and cow, goat and duck manures are improving the soil fertility.	
Day-4 20-06-2025	Awareness about the Compost Pit fertilizer.	I visited the groundnut field in that the seed germination is not good.	
Day-5 21-06-2025	Preparation of Compost Pit using cool fresh cow dung and urine, lime and soil.	I analysis the different between the Horticulture farming of using natural resources and artificial farming is using chemical.	
Day-6 22-06-2025	Explained about another Horticulture manure that is vermicompost used to increase the soil fertility.	When I came to know farmers are still using same traditional.	

Objective of the Activity Done: preparing natural pesticides

Detailed Report:

Resources with sub-optimal skills Increase the availability of high quality and safe horticultural produce by developing improved crop management practices. I was collected materials like cow dung, cow urine, and waste by using these materials. I learnt how these natural materials help to increase the fertility of the land by using these materials.

I learnt how to prepare jeevamrutham. The role of promoting growth and providing immunity in the plant system. I have visited the Chrysanthemum (Chamanti puvvu) and Rose field and meet the farmer asked about the diseases occur in the crop.

And then I also visited the tomato crop, next day I visited the garden Nursery asked some traditional methods to cultivate the tomato and other flower crop.

Preparation of jeevamrutham using the natural material and explained the benefits of the jeevamrutham. Then we prepared another natural fertilizer Compost pit which is used for the seed germination and also for the better yield. Vermicompost is also a natural manure used to increase the soil fertility.

And then I explained about the preparation of **Compost Pit**, **Fish Amino Acid** for Horticulture plants. These fertilizers mostly used in Fruits like Mango, guava, banana, papaya and in Vegetables like Tomato, brinjal, leafy greens and in Flowers like Jasmine, marigold, rose and finally in Herbal plants like Tulasi, aloe Vera, lemongrass etc..

ACTIVITY LOG FOR THE FIFTH WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	PERSON IN- CHARGE SIGNATURE
Day-1 23-06-2025	Spraying fertilizers to avoid bacterial and insect infections for plants.	Where I learnt that how fertilizers work on the plants and its roots.	
Day-2 24-06-2025	Collecting feedback from farmers.	To improve self-knowledge	
Day-3 25-06-2025	Collecting feedback from Field workers	To improve self-knowledge	
Day-4 26-06-2025	Collecting feedback from Government officials.	To understand the problems faced by the people and provide appropriate solutions	
Day-5 27-06-2025	Provided awareness and promoted good organic & hygiene practices about fertilizers.	To understand the problems and provide appropriate solutions.	
Day-6 28-06-2025	Collected feedback from village ward members.	To understand the problems and prevent the diseases in plants.	

Objective of the Activity Done: Collecting feedback.

Detailed Report

Educating People on Horticulture Practices

During the feedback sessions in **AdenaPalli village**, farmers and local residents were asked about their understanding of horticultural crops, seasonal planting methods, and soil management techniques. One-on-one discussions helped evaluate how much they had learned about composting, pest control, and the use of organic fertilizers. These interactions also gave us the opportunity to clear doubts and guide them toward more sustainable and eco-friendly horticultural practices.

Promoting Better Cultivation Techniques in the Community

Visits were made to farms and household gardens to assess how well the participants implemented what they had learned in earlier sessions. Feedback was collected on activities such as kitchen gardening, tree planting, and vegetable cultivation. Demonstrations on soil preparation, watering schedules, and natural pest repellents were conducted again where needed to improve understanding and participation.

Improving the Quality of Life through Sustainable Horticulture

Discussions with farmers and homemakers revealed that horticultural activities were helping them reduce household expenses and improve access to fresh vegetables and fruits. Many participants expressed interest in expanding their gardens. The main goal was to encourage every family in AdenaPalli to grow at least some part of their own food, promoting both nutritional health and environmental balance.

Community Education on Modern and Organic Practices

Community meetings were organized with the support of local horticulture officers and volunteers. As a participant, I documented the opinions and observations shared by both officials and villagers. It was found that while awareness of organic methods had increased, some farmers still depended on chemical fertilizers due to quicker results. Further awareness sessions were suggested to teach the preparation and benefits of natural compost, vermicompost, and neem-based pest control.

Encouraging Youth Participation in Horticulture

Feedback from the youth of AdenaPalli showed strong enthusiasm for planting ornamental and fruit-bearing plants. To sustain their interest, it was suggested that future sessions include fun and educational activities such as “Best Home Garden” or “Green Corner” competitions in schools. These programs would motivate children to develop an early interest in horticulture and carry it into adulthood.

CHAPTER 4

OUTCOMES DESCRIPTION

Status of Horticulture Farming in India:

Production, Popularity, and Economic Growth

1. Production:

India is one of the **largest producers of horticultural crops** in the world.

- In **2024–25**, horticulture production reached **367.7 million tonnes**, covering about **29.27 million hectares** of land.
- Major crops include **fruits, vegetables, spices, flowers, and medicinal plants**.
- Leading states: **Uttar Pradesh, Maharashtra, Andhra Pradesh, Tamil Nadu, and West Bengal**.

2. Popularity:

- Horticulture is **gaining popularity** among Indian farmers due to its **higher returns** compared to traditional crops like wheat and rice.
- It contributes to **nutritional security**, employment generation, and **crop diversification**.
- India is the **second-largest producer of fruits and vegetables** globally.
- Popular crops: **Banana, mango, onion, potato, tomato, marigold, rose**.

3. Economic Growth:

- Horticulture contributes about **30–33% to the agricultural GDP** while occupying only around **13–14%** of cultivated land.
- It plays a key role in **doubling farmers' income** through high-value crops and export opportunities.
- Government initiatives like **MIDH (Mission for Integrated Development of Horticulture)** and **Operation Greens** promote infrastructure and cold storage support.
- **Export growth** in mangoes, bananas, and spices helps earn foreign exchange, though India still holds only about **1% of the global horticulture trade**.

4. Challenges:

- **Post-harvest losses** due to poor storage and logistics
- **Lack of awareness** among farmers about modern techniques
- **Fragmented land holdings** and limited irrigation in some regions

Status of Horticulture Farming in India: Production, Popularity & Economic Growth

1. Production

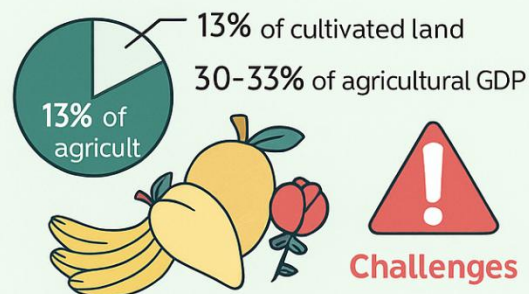
India produced 368 MT of horticultural crops in 2024-25, including fruits, vegetables, flowers, spices, and medicinal plants, Tamil Nadu, West Bengal, and West Bengal

2. Popularity

- Higher returns for farmers
- India's second-largest global producer
- Popular crops
Banana, mango, onion, potato, tomato, marigold



3. Economic Growth



4. Challenges

- Post-harvest losses
- Lack of awareness among farmers
- Fragmented land holdings in some regions

Fig 4.1 States of Horticulture Farming in India

Organic Growth in India:

A digital soil map has been developed by **ICAR-NBSS&LUP**, **ICAR-IISS**, and the **Food and Agriculture Organization (FAO)** to identify regions in India with **high potential for organic farming**. Since 2011, over **2 Lakh soil samples** have been collected and analyzed from various agro-climatic zones across the country.

Describe the problems you have identified in the Community

The Horticulture crops are affected by some insects and some diseases. The insects are stopping the grow and spoiling the crop and cause to occur some diseases to the flowers and leaf's. There are some problems that are affected by the crops.

They are:

- Insect Infestation
- Fungal Diseases
- Bacterial Diseases
- Viral Diseases



Fig 4.2 Fungal Diseases

Fungal diseases are among the **most common and damaging problems** affecting fruits, vegetables, and flower crops in horticulture. They spread through spores, especially in **warm and humid conditions**, and cause leaf damage, fruit rot, and yield loss.



Fig 4.3 Bacterial Spot on Tomato

Bacterial Diseases in Horticulture:

Bacterial diseases are a serious threat to **horticulture crops** such as fruits, vegetables, and ornamental plants. These diseases are caused by **harmful bacteria** that infect the plant's tissues, leading to **wilting, spots, rotting, and poor yield**. They spread rapidly through water, wind, tools, insects, and infected seeds.

Prevention and Control:

- Use **certified, disease-free seeds**
- Maintain **field hygiene** and **sanitize tools** regularly
- Avoid overwatering and ensure **good drainage**
- Remove and destroy infected plant parts
- Apply **organic bactericides** like neem oil or **copper-based sprays**
- Follow **crop rotation** and maintain spacing between plants

Viral Diseases in rose plants:

Roses, known for their beauty and fragrance, are commonly affected by several **viral diseases** that reduce their ornamental value. These diseases are caused by **plant viruses** that infect leaves, stems, and flowers, spreading through **insect vectors**, infected tools, or planting material.



Fig 4.4 Viral Diseases in Rose plant

This is a common disease of tomato occurring on the foliage at any stage of the growth. The fungus attacks the foliage causing characteristic leaf spots and blight. Early blight is first observed on the plants as small, black lesions mostly on the older foliage



Fig 4.5 Foliage Disease

The first major problem is that usage of chemical products. Farmers are addicted to the usage of chemicals because they unknowingly believe that chemicals can give the crop production and benefits.

Naturalpesticides:

There are natural pesticides are used to cultivate the crops. There are some methods are:

- Jeevamrutham
- Panchagavya
- Neemastra
- Vermicompost

These are some natural pesticides are used when the crop is effected to the diseases and Some Insects are not come to the crops means these are the natural pesticides are spraythecrops.



Fig 4.6Jeevamrutham

Jeevamrutham:

- Jeevamrutham is made from desi cows. It is Horticulture soil fertilizer and growth booster.
 - It is rich in microorganisms that help to improve soil fertility and productivity of the crops.
- Jeevamurtham is made from pure desi cow dung, desi cow urine, jaggery, besan flour and fertile soil.

Panchagavya:

The second image (top-right) presents a diagrammatic layout of Panchagavya five components: cow dung, urine, milk, curd, and ghee, along with jaggery and banana. This helps visualize the proportions and traditional method of layering ingredients.



Fig 4.7Panchagavya

Vermicompost:

The third image (bottom-left) captures a typical village vermicompost pit: organic waste layered with cow dung and earthworms. You'll notice consistent moisture, shade, and breathable covering all vital for efficient composting.



Fig 4.8Vermicompost

Neemastra:

Neemastra is aHorticulture preparation used in zero budget farming. It is useful against sucking pests and mealy bugs. Take 100 litre of water in a drum. Add 5 litres of local cow urine and 5 kg local cow dung into it. Crush 5 kg of neem leaves and add it in to the water.

Short term solution for farmers is creating awareness about Horticulture farming and explaining how the chemicals are spoiling land and nature. Then explain about that harmful pesticides are affecting the farmer health and also explain how the Horticulture farming improves production and quality of crop.

Long term solutions are setup aHorticulture farming help centres in every revenue division and making all subsidies and policies to reach the farmer.



Fig 4.9Neemastra

Conclusion:

In conclusion, the problems identified in **AdenaPalli village** including lack of awareness in modern farming methods, poor sanitation, limited access to education and healthcare, water scarcity, and unemployment—are affecting the daily lives and long-term development of the community. These issues are deeply connected and need attention through **awareness programs, government support, and community participation**.

Our community service activities in AdenaPalli focused on observing these challenges and suggesting practical, low-cost solutions such as **organic farming techniques, cleanliness drives, and educational support**. With continued efforts and collaboration, AdenaPalli has the potential to grow into a healthier, more self-reliant, and progressive village.

Description of the Community awareness programs conducted w.r.t the problems and their outcomes.

The awareness program I have conducted in the community where the community people given problems in the survey. Based on the community people problems I have gathered information from local Horticulture farming centre. The main objectives of the program are to explain ill effects of chemicals used in their fields. Again I conducted an awareness program for these problems in the community with solutions.

In program I explained about the Methods of Horticulture farming, usage of Horticulture farming, how to get high production and quality of crop. And also explained about disadvantages of the chemical pesticides and chemicals using for cultivation of land. When chemicals are used in farming they gradually reduced the effective production capacity of the soil and more and more chemicals had to be applied to produce the same output.

Chemical fertilizers and pesticides are expensive to purchase. Whereas organic manure and pesticides can be prepared by the farmers at home with ingredients that are around them on their farms.

Crops produced by the chemical farming methods are more dangerous to the producer and customer. Whereas crops produced by the Horticulture farming methods are more nutritious and safer for the farm workers. Then also explained about the demand for the Horticulture crops in the market. The use of jeevamrutham can result in the significant savings in the total crop production costs and I recommended that farmers should all use the Horticulture manure and fertilizers and adopt Horticulture farming methodology.

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 PostHarvest Management. In recent times, there has been a shift toward the consumption of fresh rather than frozen produce. Toward netzero 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.

Report on the mini-project work done in the related subject with respect to the habitation/ village.

Introduction

I perform the community service project titled as “Horticulture” in AdenaPalli in Tirupatidistrict. For this project I did with all my efforts that knowing about the Horticulture by using natural methods.

In this project I explained some cultivated crops that are cultivated in that village what are the natural resources are used to cultivate and how can solve the problems when the crops effected by the diseases. I observe some methods and I perform some activities regarding to the Horticulture farming with my team members.

I observed the process of preparing some natural fertilizers and preparing the solution for the diseases using natural resources. In the period of the 19th century the artificial chemicals products are came and there tested in the crops and that crops are grown well within fewer months. so, peoples are suffering some disease due to the usage of harmful chemical fertilizers. From this project I knew about the Horticulture farming and how it is important in the present generation and for the future. I collected some suggestions and methods by using natural resources. Let us know about this project in depth.

Crops in AdenaPalli

The community service project about aHorticulture farming in AdenaPalli Tirupatidistrict. I Went to that place and visit the location and meet the farmers in the farming land.

The name of the crops that are in that village:

- Rose
- Marigold
- Tomato
- Chamanti
- Sampangi

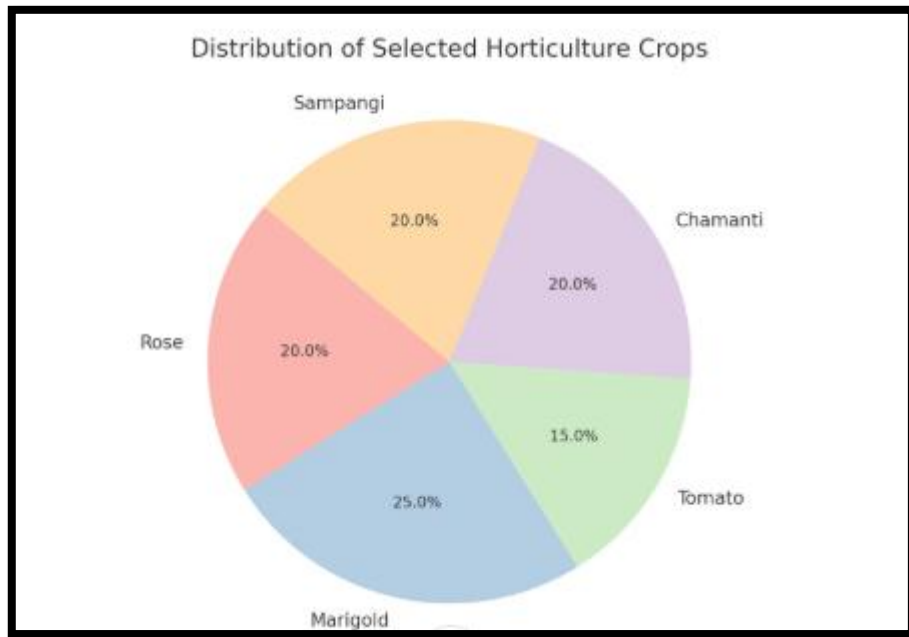


Fig 4.10 Total HorticultureCrops

Importance of Selected Horticulture Crops

Importance of Rose Plants:

Rose plants are among the most popular and valuable flowering plants in horticulture. Known as the "Queen of Flowers", roses hold cultural, commercial, medicinal, and aesthetic significance worldwide, including in India.

1. Ornamental Value:

- Roses are widely used in **gardens, parks, and homes** for decoration.
- They enhance the **aesthetic appeal** of public and private spaces.
- Commonly used in **bouquets, flower arrangements, and landscaping**.

2. Commercial Importance:

- Roses have high demand in the **floriculture industry**.
- Grown for cut **flowers, garlands, and flower shows**.
- Exported to many countries, contributing to **foreign exchange earnings**.

3. Religious and Cultural Use:

- Used in **temples, weddings, and festivals** as offerings or decorations.
- Symbol of **love, respect, and devotion** in many cultures.

4. Medicinal and Cosmetic Uses:

- Rose petals are used in **herbal medicines** to treat skin irritation and digestive issues.
- Rose water is widely used in **cosmetics, perfumes, and skincare** products.
- Rose oil is valuable in **aromatherapy** for stress relief.

5. Environmental Benefits

- Roses help in **beautifying the environment** and support **biodiversity** by attracting bees and butterflies.
- They contribute to **ecological balance** in gardens and farms.



Fig 4.11 Rose Plants

Importance of Marigold Plants:

Marigold is one of the most widely grown and important flower crops in India. It is popular for its **bright color, easy cultivation, and wide range of uses** in religious, commercial, and medicinal fields.

1. Ornamental and Aesthetic Value:

- Marigold is widely used in **gardens, borders, and pots** due to its vibrant yellow and orange flowers.
- It adds **color and beauty** to landscapes and is popular in **home gardening**

2. Religious and Cultural Significance:

- Heavily used in **temples, festivals, weddings, and ceremonies**.
- Used to make **garlands and decorations** during religious and national events like Diwali, Dussehra, and Independence Day

3. Commercial Importance:

- Marigold is in high demand in the **flower market** due to its durability and long shelf life.
- Easy to grow and harvest, making it a **profitable crop for small farmers**.
- Used in **loose flower trade** and for **extraction of natural dyes**

4. Medicinal and Insecticidal Use:

- Marigold extracts have **antibacterial, antifungal, and wound-healing properties**.
- It acts as a **natural insect repellent**; intercropping marigold with vegetables helps to **control pests** like nematodes and whiteflies.
- Petals are used in **herbal creams and ointments**.

5. Environmental Role:

- Helps in **improving soil health** and attracting beneficial insects.
- Marigold is often planted as a **companion plant** to protect main crops.



Fig 4.12 Marigold Farm

Importance of Tomato

Tomato is one of the **most popular and widely consumed vegetable crops** in the world. It holds significant value in terms of **nutrition, economy, health, and agriculture**. In India, tomatoes are grown in almost all states and are an essential part of daily meals.

1. Nutritional Value:

- Tomatoes are rich in **vitamin A, vitamin C, potassium, and folate**.
- Contain **lycopene**, a powerful antioxidant that gives tomatoes their red colour and helps fight **cancer and heart disease**.
- Low in calories, making it a healthy addition to any diet.

2. Culinary Use:

- Used in a wide variety of dishes such as **curries, salads, soups, sauces, chutneys**, and juices.
- A key ingredient in **South Indian and North Indian cuisines**.
- Also used in **processed food products** like ketchup and tomato puree.

3. Economic Importance:

- Tomato farming provides **income and employment** to millions of farmers across India.
- High demand in local markets and food processing industries.
- Grown throughout the year, offering a **sustainable income source**.

4. Agricultural Importance:

- Grows well in diverse climates, from tropical to temperate regions.
- Short growing period (60–90 days), suitable for **multiple cropping cycles** in a year.
- Can be grown in **open fields, greenhouses, or polyhouses**.

5. Health Benefits:

- Lycopene and other antioxidants help protect against **cell damage** and support **heart health**.
- Improves **skin health, boosts immunity**, and supports **digestion**.



Fig 4.13 Tomato Farm

Importance of Chamanti (Chrysanthemum):

Chamanti, also known as **Chrysanthemum**, is one of the most important **flowering plants** cultivated in India. It is widely grown for its **aesthetic, religious, medicinal, and commercial value**, especially in rural and semi-urban areas.

1. Ornamental Importance:

- Chamanti is known for its **vibrant colors and beautiful bloom patterns**.
- Extensively used in **gardens, parks, and floral decorations**.
- A favorite in **flower shows and exhibitions** due to its wide variety of shapes and sizes.

2. Cultural and Religious Use:

- Heavily used during **festivals, poojas, and traditional ceremonies** & commonly made into **garlands and offerings** in temples.
- Symbolizes **purity, devotion, and positivity** in Indian traditions

3. Commercial Value:

- Chamanti flowers are in great demand for the **loose flower market** and **decorative purposes** & It is a **profitable flower crop**, easy to cultivate and suitable for small-scale farmers.
- Grown in many parts of Andhra Pradesh, Tamil Nadu, Karnataka, and Maharashtra.

4. Medicinal Uses:

- Some varieties are used in **herbal teas and traditional medicines**.
- Chamanti extracts have **anti-inflammatory and calming properties**, used to reduce fever and treat headaches in Ayurvedic practices.

5. Environmental Benefits:

- Attracts **pollinators like bees and butterflies**, promoting biodiversity
- Enhances the **visual appeal and air quality** of surroundings.



Fig 4.14 Chamanti flower Farm

Importance of Sampangi (Tuberose / Polianthes tuberosa):

Sampangi, commonly known as **Tuberose**, is a highly valued flower crop in India. It is widely grown for its **strong fragrance**, **ornamental beauty**, and use in **religious, medicinal, and industrial applications**.

1. Fragrance and Aesthetic Value:

- Sampangi is famous for its **intensely sweet and pleasant fragrance**.
- It is used in **flower arrangements, garlands, bouquets, and home decorations**.
- A favourite flower in **weddings, traditional ceremonies, and festivals**.

2. Perfume and Cosmetic Industry:

- Tuberose is a key raw material in the **perfume industry**.
- Its **essential oils** are used in making **scents, body sprays, soaps, and cosmetic creams**.
- One of the most **expensive floral oils** in the market due to its long-lasting aroma.

3. Religious and Cultural Use:

- Sampangi flowers are widely used in **temples, rituals, and pooja offerings.**
- Commonly worn as **hair accessories by women**, especially in South India.
- Symbolizes **purity, love, and peace**

4. Economic Importance:

- A high-demand crop in **domestic and international markets.**
- Grows well in **tropical climates**, making it ideal for many Indian states.
- Used for both **loose flower trade** and **oil extraction**, offering **dual income opportunities** to farmers.

5. Medicinal and Therapeutic Benefits:

- The fragrance is believed to have **calming and stress-relieving effects.**
- Tuberose oil is used in **aromatherapy** to treat **insomnia, anxiety, and depression.**
- Some traditional remedies use Sampangi in **natural skin and hair treatments.**



Fig 4.15Sampangi flower Farm

Farmers are changing the crops according to the seasonal flowers or crops by changing the crops means we can increase the soil chemicals by adding natural resources and natural pesticides. This means they did not even know its impact on the environments. They did it because of the seasonal calendar of the planting pattern. Here are some of the known advantages of crop rotation. They are:

1. **Increases soil fertility:** Prolonged planting of the same crop type leads to the depletion of specific nutrients in the soil. Each crop type has a different nutrient interaction with the soil, and each of them releases and absorbs different types of nutrients.
2. **Increases crop yield:** Crop rotation increases the harvest obtained from a single seasonal harvest. Because of the incorporation of different crop types, one gets not only a variety of crops after each season but also a general bounty harvest.
3. **Increase soil nutrients:** Crop rotation allows the land to regenerate and rejuvenate its own nutrients without having to apply more nutrients through the use of fertilizers. Leaving the land bare for a season enables the land to restore the soil nutrients lost through absorption by plants harvested in the previous season.
4. **Reduce soil erosion:** Soil erosion is the carrying away of the most important topsoil layer by wind or water. When the soil is constantly covered by plants, the top soil layer is not carried away by water during heavy rainfall. A layer of crawling plants or cover crops like beans and peas works well to prevent Erosion by giving the ground full crop cover, unlike stand alone crops like maize which leave land exposed to the soil erosion elements.

Methods of Horticulture Farming

Horticulture farming involves the **scientific cultivation** of fruits, vegetables, flowers, medicinal plants, and ornamental plants. Different methods are used depending on the type of crop, climate, soil, and technology available. They are:

- Organic Farming
- Greenhouse Farming
- Polyhouse Farming
- Hydroponic Farming
- Vertical Farming
- Traditional/Open Field Farming
- Traditional/Open Field Farming

1. Organic Farming:

- Uses **natural fertilizers** like compost, cow dung, and green manure.
- No use of chemical pesticides or synthetic inputs.
- Improves **soil health and crop quality**.
- Eco-friendly and sustainable

2. Greenhouse Farming:

- Cultivation done in **controlled environment structures** using glass or poly sheets.
- Temperature, humidity, and light are managed.
- Ideal for high-value crops like **roses, orchids, tomatoes**, etc.
- Helps grow crops **year-round**, even in adverse weather

3. Polyhouse Farming:

- Plants are grown in **nutrient-rich water** without soil.
- Requires less water and space.
- Popular in urban and vertical farming setups.
- Ideal for leafy vegetables and herbs.

4. Hydroponic Farming:

- Plants are grown in **nutrient-rich water** without soil.
- Requires less water and space.& Popular in urban and vertical farming setups.
- Ideal for leafy vegetables and herbs.

5. Vertical Farming:

- Crops are grown in **layers or stacked structures**.
- Saves space; suitable for **urban areas** or indoor farming.
- Efficient water and light use & Reduces transportation cost and increases local food supply.

6. Traditional/Open Field Farming:

- Common in villages; crops grown in **natural sunlight and open soil**.
- Low cost and suitable for large-scale production.
- Depends on **seasonal weather and rainfall**.

7. Integrated Farming:

- Combines horticulture with **livestock, aquaculture, or poultry**.
- Maximizes resource use and income.
- Reduces waste and increases sustainability

1. Crop Diversity in Horticulture:

Horticulture farming naturally encourages **crop diversity**, which plays a vital role in sustainable agriculture. According to the principles of **Agro ecology**, practicing **polyculture** the cultivation of multiple crops together offers several benefits to the environment and farming systems.

Planting a **variety of vegetable and fruit crops** helps to support a **wider range of beneficial insects**, such as pollinators and pest predators. It also enhances the population of **useful soil microorganisms**, which improve soil fertility and plant health. Together, these factors contribute to the **overall health and productivity** of the farm.

By promoting crop diversity, horticulture farming helps in:

- Reducing the risk of pests and diseases
- Improving **soil structure and nutrient balance**, and Making the farm more **resilient to climate changes**

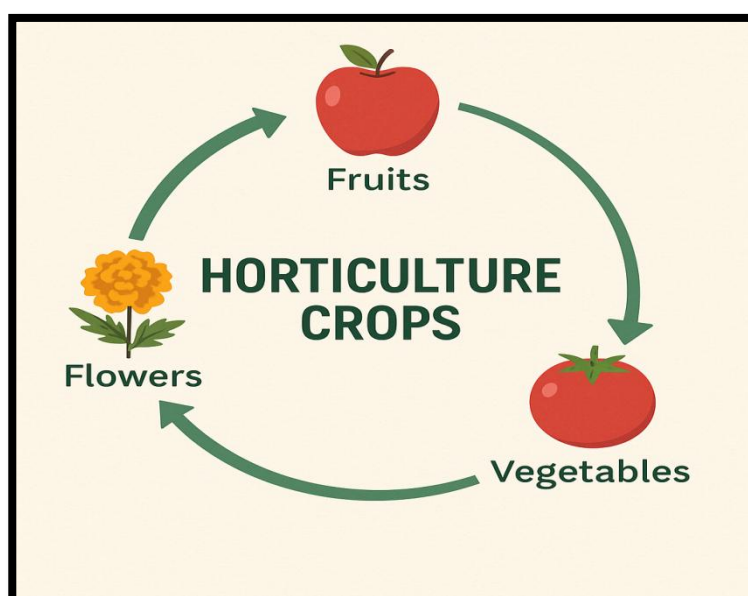


Fig 4.16 Crop Diversity in Horticulture

2. Soil Management in Horticulture:

Soil management is a critical practice in horticulture that ensures healthy plant growth, increased yield, and sustainable farming. Good soil management improves **soil fertility, structure, moisture retention, and biological activity**.

Plants need a large number of nutrients in various quantities to flourish. Supplying enough nitrogen and particularly synchronization, so that plants get enough nitrogen at the time when they need it most, is a challenge of Horticulture farmers. Crop rotation and green manure help to provide nitrogen through legumes.

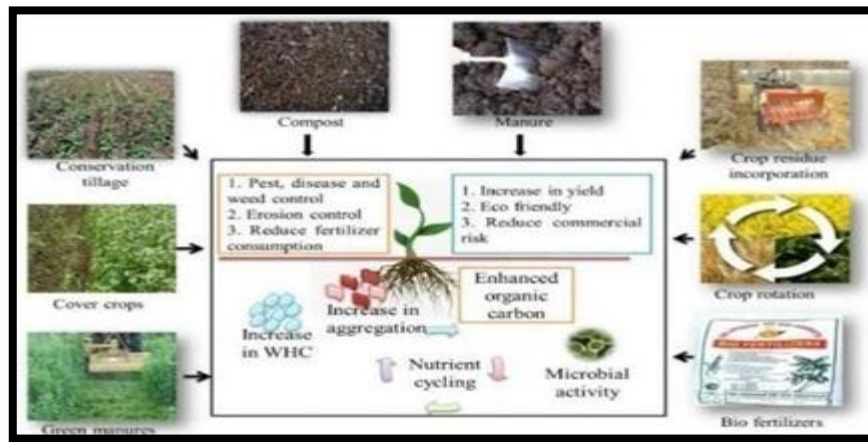


Fig 4.17 Soil Management in Horticulture

- By using natural resources, the crops are cultivated with good nutrients and good growing crop.
- By using the natural methods, we can cultivate the crops with good in manner.
- In olden days we are using these natural methods by cultivating the crops with good and it is good for health .so we can suggested some points about the natural methods to the famers.

Principles of Horticulture Farming:

Horticulture farming involves the **scientific cultivation of fruits, vegetables, flowers, medicinal and ornamental plants**. It follows specific principles that ensure healthy growth, high-quality produce, and sustainable farming practices.

There are Seven principles of Horticulture agriculture are as follows:

- Plant Growth and Development
- Propagation Techniques
- Soil Management
- Fertilization
- Pest & Disease Management
- Water Management
- Environment Management

Horticulture farming should sustain and enhance the health of soil, plants, animals and also humans as one and indivisible. Horticulture farming should be based on the living ecological systems and cycles, work with them, emulate them and help sustain them.

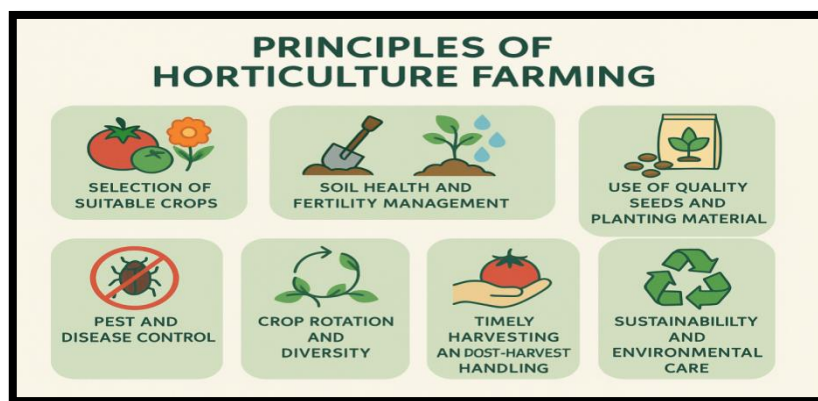


Fig 4.18 Principles of Horticulture Farming

CHAPTER 5

RECOMMENDATIONS AND CONCLUSIONS OF THE MINI PROJECT

The project about Horticulture farming is successfully completed in my village AdenaPalli in Tirupati district in Andhra Pradesh. From these we conclude that most of the farmers are forgot the process of Horticulture farming by using natural resources and natural fertilizers and natural pesticides.

In my survey in the village most of the common crops are Rose, Marigold, Tomato and some flowers. From this project I know about the Horticulture farming and Horticulture methods and natural resources that are used to cultivate the crops.

I learn about new natural methods that are use in Horticulture farming in agriculture. NSS camps are conducted by the college and some other students, and I and my team members are joined and perform the camp and enjoyed the day with children.

I really thankful to my mentor **Mrs. D. Haritha**, to spend her time in survey. And really and grate fully thanks to the Anil B.Sc Agriculture, of revenue officer who helped me to meet the farmers and showing the locations.

Student Self-Evaluation for the Community Service Project

Student Name	: D Jagadeesh Babu
Registration No	: 23751A3132
Period of CSP	: 30-05-2025 To 28-06-2025
Date of Evaluation	:
Name of the Person in-Charge	: Palani Pavani
Address with mobile	: Pulivarthivari Palli

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

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

Student Name	: D Jagadeesh Babu
Registration No	: 23751A3132
Period of CSP	: 30-05-2025 To 28-06-2025
Date of Evaluation	:
Name of the Person in-Charge	: Palani Pavani
Address with mobile	: Pulivarthivari Palli

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
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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

CHAPTER 6

PHOTOS AND VIDEO LINKS



Fig 6.1 Nursery in Horticulture Farming



Fig 6.2 Chamanti Farm



Fig 6.3 Marigold Crop



Fig 6.4 Tomato Crop



Fig 6.5 Chamanti with drip irrigation



Fig 6.6 Crown gall on a rose plant (a bacterial disease)



Fig 6.7 Healthy Rose Plants



Fig 6.8 Chemical fertilization for Rose Plants

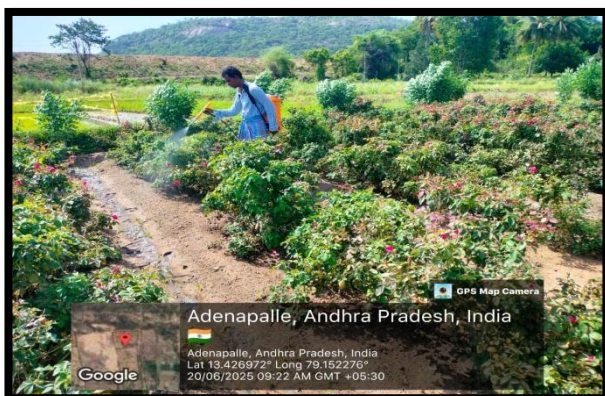


Fig 6.9 Spraying Fertilization for Rose Plants