#### ENCHANCING CROP PRODUCTIVITY THROUGH NATURAL FERTILIZERS

Community Service Project Report Submitted to the Faculty of

#### JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

In partial fulfilment of the requirements for the award of the Degree of

#### **BACHELOR OF TECHNOLOGY**

IN

#### **INFORMATION TECHNOLOGY**



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#### SESHADRI RAO GUDLAVALLERU ENGINEERING COLLEGE

(An Autonomous Institute with Permanent Affiliation to JNTUK, Kakinada)
SESHADRIRAO KNOWLEDGE VILLAGE, GUDLAVALLERU- 521 356
ANDHRAPRADESH

2024-2025

# Program Book for Community Service Project



Name of the Student: Kaveti Bhavana

Name of the College: Seshadri Rao Gudlavalleru Engineering College

 $\textbf{Registration Number:}\ 22481A1284$ 

**Period of CSP: From :** 20-05-2024 **To:** 29-06-2024 &

From: 15-07-2024 To: 27-07-2024

Name & Address of the Community/Habitation:

Kavatavaram Rd, Kavatavaram, AndhraPradesh 521331

#### **Community Service Project Report**

Submitted in accordance with the requirement for the degree of Bachelor of Technology

Name of the College : Seshadri Rao Gudlavalleru Engineering College

**Department**: Information Technology

Name of the Faculty Guide: M.Nagaraju, M.Tech., Ph.D.

**Duration of the CSP** :From:20-05-2024 To: 29-06-2024 &

From: 15-07-2024 To: 27-07-2024

Name of the Student :Kaveti Bhavana

**Programme of Study**: Enhancing Crop Productivity Through Natural Fertilizers

Year of Study : III B. Tech, I Sem

**Register Number** : 22481A1284

**Date of Submission**:

#### **Student's Declaration**

Student of Community I, Kaveti Bhavana, a Service Program, Reg.No. 22481A1284 of the Department of Information Technology, Seshadri Rao Gudlavalleru Engineering College do hereby declare that I have completed the mandatory community service from 20-05-2024 to 29-06-2024, 15-07-2024 to 27-07-2024 in Kavatavaram Krishna , AndhraPradesh under the Faculty Guideship of Mr. M.Nagaraju, Department of Information Technology in Seshadri Rao Gudlavalleru Engineering College, Gudlavalleru.

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(Signature and Date)

#### **Endorsements**

Faculty Guide :

Master of Trainer(S) :

Head of the Department:

Principle :

#### **Certificate from Official of the Community**

This is to certify that Kaveti Bhavana Reg. No. 22481A1284 of Gudlavalleru Engineering College underwent community service in Kavatavaram Rd , kavatavaram, Krishna district of Andhra Pradesh about Parent Portal Connect from 20-05-2024 to 29-06-2024 and 15-07-2024 to 27-07-2024. The overall performance of the Community Service Volunteer during his/her community service is found to Satisfactory.

Authorized Signatory with Date and Seal

#### **ACKNOWLEDGEMENTS**

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#### **CHAPTER 1: EXECUTIVE SUMMARY**

The use of fertilizers is fundamental to replenishing nutrients depleted from the soil by crops; however, over-reliance on synthetic fertilizers compromises long-term soil health. In response, sustainable agriculture promotes advanced organic farming practices that reduce dependency on chemical inputs while fostering environmental resilience. A key element in this approach is a well-informed selection of organic fertilizers tailored to specific crops, which can enhance nutrient efficiency, soil health, and overall productivity.

Our website, designed to support sustainable agriculture, provides an accessible platform for farmers to learn about organic fertilizer options specifically suited to paddy and blackgram cultivation. Available in both English and Telugu, the website delivers comprehensive information on the types and benefits of organic fertilizers, focusing on sustainable nutrient management, cost savings, and ecosystem health. Additionally, it emphasizes proper application techniques and safety measures to optimize outcomes and prevent nutrient imbalances that can arise from improper use.

The site is a registered-access platform, ensuring personalized guidance and secure access for farmers. By empowering farmers with knowledge of organic fertilizers and encouraging best practices, the platform contributes to increased soil fertility, enhanced biodiversity, and a move toward cost-effective, environmentally friendly agriculture.

#### **Key Features:**

- ❖ Sustainable Agriculture Promotion: Emphasis on reducing synthetic fertilizer reliance by choosing organic alternatives suited to specific crops.
- ❖ Comprehensive Fertilizer Information: Details on organic fertilizers for paddy and blackgram, accessible in English and Telugu.
- ❖ Farmer Education and Confidence: Enhances farmers' knowledge, fostering confidence in organic fertilizer use.
- **Economic Savings**: Reduces costs associated with synthetic fertilizers.
- **❖ Biodiversity Enhancement**: Supports ecological balance and diversity in farmland ecosystems.
- ❖ Soil Health Improvement: Reinforces soil structure, fertility, and water retention capacity through organic methods.
- **Controlled Access**: Registration-based login for secure, personalized access
- ❖ Safety Measures: Guidelines on safe handling and application of fertilizers to avoid nutrient imbalances.

This platform not only educates farmers but also empowers them to make sustainable choices that contribute to resilient, healthy agricultural systems.

#### **CHAPTER 2: OVERVIEW OF THE COMMUNITY**

#### **Profile of the Community:**

The people of Kavatavaram have a strong agricultural background, with farming practices passed down through generations. Kavatavaram village, located in the Krishna district, is known for its commitment to agriculture, which plays a central role in the lives and economy of the local community. The distance between Gudlavalleru and Kavatavaram is 2KM.

#### Socio-Economic Conditions of the Community/Habitation:

In Kavatavaram, the local farmers face several challenges in managing and marketing their agricultural produce. Despite their deep knowledge and experience in farming, many farmers struggle to access wider markets due to limited exposure and outdated marketing methods. Economic constraints also make it difficult for them to adopt advanced technologies and sustainable farming practices, which would help improve yield and profitability. In addition, limited financial resources mean that farmers often rely on traditional, low-cost methods, which may not yield the best returns or sustainability in the long run. The lack of infrastructure and access to modern equipment further exacerbates productivity challenges, making it harder for farmers to compete with larger, resource-rich agricultural enterprises. Furthermore, the community's reliance on local intermediaries for market access often leads to reduced profit margins, as farmers receive lower prices for their produce than they would through direct sales to broader markets.

#### **Conclusion:**

Our survey in Kavatavaram highlights the need for better market access and modern resources to support the local farming community. An accessible, mobile-friendly website could offer an effective solution by allowing farmers to connect with larger markets. With a user-friendly design, the platform would enable farmers with various levels of computer literacy to access broader customer bases, learn about sustainable practices, and explore new farming techniques

The website could offer features like product showcases, transparent pricing, educational resources on sustainable agriculture, and language support to help farmers in Kavatavaram connect with a wider audience. Implementing this concept would help improve farmers' economic conditions, preserve the traditional agricultural knowledge of Kavatavaram, and foster a sustainable link between traditional practices and modern advancements.

#### **CHAPTER 3: COMMUNITY SERVICE PART**

#### **Activities Conducted During the Community Service Project:**

During the community service project in Kavatavaram, various activities were conducted to gain a deep understanding of the local farming community's needs and challenges. A key component of the survey involved door-to-door interviews, where we spoke directly with farmers and residents. These conversations provided personal insights into aspects like agricultural practices, economic conditions, and the limited access to modern technology. By hearing directly from individuals, we could capture a wide range of perspectives that helped shape a clearer picture of the community's daily realities and aspirations.

In addition to individual interviews, we organized focus group discussions to foster a collaborative exchange of ideas. These group sessions created a supportive environment where community members could share experiences, discuss common issues, and suggest solutions. This format not only encouraged dialogue but also allowed us to gather valuable qualitative data, which highlighted shared challenges, such as limited market access and reliance on traditional farming methods.

Another crucial part of the survey was observing the community's daily routines and interactions. Immersing ourselves in the local environment allowed us to understand Kavatavaram's way of life and unique agricultural practices. We observed various aspects of the community, from farming activities to cultural traditions, which provided a more nuanced perspective on the challenges and opportunities within the village's agricultural landscape.

The survey also included structured questionnaires to capture quantifiable data on farming methods, education, and economic factors. This structured approach ensured consistency in data collection, making it easier to analyze trends and patterns across the responses. Combined with the qualitative insights from interviews and focus groups, this data allowed for a well-rounded view of the community's socio-economic status and farming needs.

In conclusion, our multi-method approach-comprising door-to-door interviews, focus groups, observational studies, and structured questionnaires-provided a comprehensive understanding of Kavatavaram's farming community. The diverse methods allowed us to capture individual and collective perspectives, revealing specific needs and highlighting potential areas for sustainable development. This approach will guide future initiatives aimed at empowering the local community with improved market access, sustainable practices, and resources for growth.

#### ACTIVITY LOG FOR THE FIRST WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	Person In-charge Signature
Day -1 Monday 20-05-2024	Initial project briefing and objectives discussion	Understood project scope and objectives	
Day -2 Tuesday 21-05-2024	Research on organic fertilizers vs inorganic fertilizers	Learned differences and benefits of organic fertilizers	
Day -3 Wednesday 22-05-2024	Introduction to Jeevamrutham, Beejamrutham, etc.	Gained insight into organic fertilizers for blackgram and paddy	
Day -4 Thursday 23-05-2024	Prepared questionnaire for farmer surveys	Developed data collection skills	
Day -5 Friday 24-05-2024	Met with guide to discuss survey content and approach	Improved survey structure based on guide feedback	
Day -6 Saturday 25-05-2024	Finalized survey materials and plans	Ready for field data collection	

#### WEEKLY REPORT

WEEK -1 (From Dt: 20-05-2024 to Dt: 25-05-2024)

Objective of the Activity Done: The objective of this week's activity was to establish a strong foundation for our project on sustainable farming. **Detailed Report:** This week, we focused on setting up the groundwork for our project on sustainable

farming. We developed survey questionnaires to understand the fertilizer usage among local farmers. We also discussed organic farming practices with our guide and initiated research on traditional organic fertilizers such as Jeevamrutham, Dhravajeevamrutham And Beejamrutham. To ensure our data collection process was organized, we established clear criteria for gathering and analyzing the information. We outlined a project timeline with milestones to guide the progress of the project. Throughout the week, we engaged with farmers to learn about their experiences and challenges. Based on these conversations

We compiled a list of issues faced in organic farming. We also documented our initial find

Findings and began preparing for the upcoming survey activities.

#### ACTIVITY LOG FOR THE SECOND WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	Person In-charge Signature
Day -1 Monday 27-05-2024	Conducted survey with local farmers	Collected insights on fertilizer use among farmers	
Day -2 Tuesday 28-05-2024	Organized collected survey data	Enchanced data organization skills	
Day -3 Wednesday 29-05-2024	Discussed findings and problem statement with guide	Refined understanding of project scope	
Day -4 Thursday 30-05-2024	Brainstormed potential solutions with guide	Identified feasible solutions to address problem areas	
Day -5 Friday 31-05-2024	Drafted preliminary solution ideas	Practiced outlining solutions based on real-world data	
Day -6 Saturday 01-06-2024	Finalized problem statement and initial solutions	Strengthened foundation for upcoming project phases	

#### WEEKLY REPORT

WEEK – 2 (From Dt:27-05-2024. to Dt:01-06-2024)

**Objective of the Activity Done:** The objective of Week 2 was to analyze survey data, refine the problem, and develop solutions.

#### **Detailed Report:**

This week, we focused on gathering data from local farmers about their fertilizer use through surveys. We analyzed the results to identify the main challenges farmers face, like difficulty in accessing good fertilizers. Based on this, we brainstormed solutions, such as promoting organic fertilizers and improving fertilizer use practices. We worked with peers to create initial solutions and checked if they were practical. We also discussed the importance of educating farmers about better fertilizer management to improve crop yield. Additionally, we explored ways to make organic fertilizers more accessible to farmers in the community. By the end of the week, we set goals for for the next week, including testing the solutions with farmers to make improvements and refine our approach based on their feedback.

#### ACTIVITY LOG FOR THE THIRD WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	Person In-charge Signature
Day -1 Monday 03-06-2024	Conducted a detailed analysis of survey data, focusing on challenges farmers face with fertilizers	Gained a deeper understanding of specific issues in current farming practices	
Day -2 Tuesday 04-06-2024	Met with guide to discuss survey findings and brainstorm solutions	Gained clarity on effective organic fertilizer solutions	
Day -3 Wednesday 05-06-2024	Refined and documented proposed solutions based on survey analysis	Practiced documentation of tailored solutions	
Day -4 Thursday 06-06-2024	Reviewed solution documentation with guide for feedback	Improved solutions based on expert advice	
Day -5 Friday 07-06-2024	Updated problem statement and solution draft	Strengthened problem- solution alignment based on feedback	
Day -6 Saturday 08-06-2024	Prepared a plan for implementing solutions in upcoming phases	Set action items for implementation phase	

#### WEEKLY REPORT

WEEK – 3 (From Dt : 03-06-2024 to Dt : 08-06-2024)

**Objective of the Activity Done:** The objective of Week 3 was to refine solutions based on survey analysis and feedback, update the problem statement, and prepare for the implementation phase of the project.

#### **Detailed Report:**

This week, we conducted a deeper analysis of the survey data with our guide, identifying specific challenges related to fertilizer use and refining our proposed solutions. We documented a structured plan for the solutions and received constructive feedback on the draft, which helped us improve the approach. Based on new insights, We updated the problem statement to better reflect the community's needs. We also prepared for the next phase of the project, focusing on implementation. Throughout The week ,we developed skills in collaborative problem-solving ,created a timeline for executing the solutions, and compiled detailed notes for future reference. This process ensured that our solutions would be practical, effective, and aligned with the farmers needs.

#### ACTIVITY LOG FOR THE FOURTH WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	Person In-charge Signature
Day -1 Monday 10-06-2024	Created a website outline and planned structure for solution implementation	Gained understanding of website structure for educational purposes	
Day -2 Tuesday 11-06-2024	Defined main content sections:organic fertilizers,benefits, and usage for blackgram and paddy	Learned to structure educational content on website	
Day -3 Wednesday 12-06-2024	Started developing website layout and initial design elements	Practiced basic website design and layout planning	
Day -4 Thursday 13-06-2024	Added initial content on Jeevamrutham, Dhravajeevamrutham,and Beejamrutham	Enchanced website content with practical information for farmers	
Day -5 Friday 14-06-2024	Conducted initial usability testing to ensure user-friendly design	Learned techniques in usability testing and user-centerd design	
Day -6 Saturday 15-06-2024	Prepared the first draft of the website for guide review and feedback	Gained experience in preparing and presenting	

#### WEEKLY REPORT

WEEK – 4 (From Dt : 10-06-2024 to Dt :15-06-2024)

**Objective of the Activity Done:** The objective of the week was to develop and refine the project website, focusing on content, design, usability, and ensuring it effectively engages farmers.

#### **Detailed Report:**

This week, we created an outline for the project website, defining key content sections relevant to farmers. We began developing the website's layout and design, adding initial content on organic fertilizers, and focusing on making the website user-friendly.

Usability testing was conducted to ensure smooth website navigation, and a draft was prepared for the guide's review. We also engaged in discussions on how to effectively present the information and identified target audiences for outreach, including local farmers and agricultural experts. Throughout the process, we enhanced the website content for clarity and engagement, ensuring it would be accessible in both English and Telugu. Additionally, we considered incorporating interactive elements like videos and forums to encourage farmer interaction. The website development process was thoroughly documented, allowing us to track progress and make improvements as needed.

#### **ACTIVITY LOG FOR THE FIFTH WEEK**

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	Person In-charge Signature
Day -1 Monday 17-06-2024	Updated website content based on guide feedback	Improved content relevance and accuracy	
Day -2 Tuesday 18-06-2024	Added visuals and infographics on organic fertilizers for clarity		
Day -3 Wednesday 19-06-2024	Included additional resources on Jeevamrutham, Dhravajeevamrutham, and Beejamrutham	Expanded educational material for farmers	
Day -4 Thursday 20-06-2024	Conducted a second round of usability testing with potential users	Improved website functionality and usability	
Day -5 Friday 21-06-2024	Collected feedback from farmers and guide on updated website	Gained insights on necessary adjustments for user satisfaction	
Day -6 Saturday 22-06-2024	Finalized and implemented updates based on feedback	Refined website to better meet user needs	

#### WEEKLY REPORT

WEEK - 5 (From Dt:17-06-2024 to Dt:22-06-2024)

**Objective of the Activity Done:** The objective of the week was to finalize and enhance the website by updating content, adding visuals, improving usability, and preparing for launch to the target audience.

#### Detailed Report:

This week, we updated the website content based on feedback from our guide, adding visuals and infographics to improve user understanding. We expanded educational resources on organic fertilizers and conducted a second round of usability testing, gathering feedback to make necessary adjustments. Final updates were made to enhance user experience, including optimizing page load times and refining navigation. We also reviewed promotional strategies for the website launch, focusing on local community engagement and outreach efforts. Additionally, we tested all interactive features to ensure functionality, documented the changes made, and prepared to launch the website to the target audience.

#### ACTIVITY LOG FOR THE SIXTH WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILYACTIVITY	LEARNING OUTCOME	Person In-charge Signature
Day -1 Monday 24-06-2024	Reviewed the website with the guide for final Feedback	Gained insights into professional standards for website content	
Day -2 Tuesday 25-06-2024	Made adjustments based on guide's suggestions	Improved the website's educational impact and usability	
Day -3 Wednesday 26-06-2024	Ensured all links and resources were functional and accessible	Enhanced user experience through better navigation	
Day -4 Thursday 27-06-2024	Discussed promotional strategies for the website with the guide	Developed strategies for effectively reaching farmers	
Day -5 Friday 28-06-2024	Prepared user manuals or guides for navigating the website	Enhanced understanding of user assistance tools	
Day -6 Saturday 29-06-2024	Final review of the website, ensuring all elements are complete.	Ready the website for launch and dissemination	

#### WEEKLY REPORT

WEEK – 6 (From Dt:24-06-2024 to Dt:29-06-2024)

**Objective of the Activity Done:** The objective of the week was to finalize the website by incorporating feedback, ensuring functionality, and preparing for effective dissemination to reach farmers.

#### **Detailed Report:**

This week, we reviewed the website with our guide for final feedback and made adjustments based on their suggestions to improve the overall design. We ensured all links and resources on the website were functioning correctly and enhanced the clarity and usability of the content. To support user navigation, we prepared user manuals and conducted a final review to confirm readiness. Additionally, we discussed promotional strategies to effectively reach farmers and organized documentation to support the website's launch. With all adjustments finalized, we confirmed the website was ready for dissemination, fully aligned with project goals.

#### ACTIVITY LOG FOR THE SEVENTH WEEK

DAY & DATE	BRIEF DESCRIPTION OF THE DAILYACTIVITY	LEARNING OUTCOME	Person In-charge Signature
Day -1 Monday 15-07-2024	Started compiling project documentation	Developed skills in organizing project data and findings	
Day -2 Tuesday 16-07-2024	Documented website content and structure	Enhanced ability to create comprehensive content outlines	
Day -3 Wednesday 17-07-2024	Prepared documentation on survey process and result	Prepared documentation on survey process and results	
Day -4 Thursday 18-07-2024	Created a user manual for the website	Gained experience in user instruction and support documentation	
Day -5 Friday 19-07-2024	Reviewed and finalized all project documentation	Ensured clarity and completeness in all documentation	
Day -6 Saturday 20-07-2024	Organized a meeting to discuss the documentation with the guide	Received feedback for final adjustments before project submission	

#### WEEKLY REPORT

WEEK – 7 (From Dt:15-07-2024 to Dt:20-07-2024)

**Objective of the Activity Done:** The objective of the week was to finalize and organize comprehensive project documentation, ensuring clarity, accessibility, and readiness for the final project report.

#### **Detailed Report:**

This week, we compiled comprehensive project documentation, including findings, results, and detailed records of the website content and structure. We prepared thorough documentation on the survey process and outcomes, along with a user manual to support website navigation, making it accessible and easy to use. A review meeting was organized with our guide, where we received valuable feedback, allowing us to make final adjustments to enhance clarity coherence, and detail across all written materials. Additionally, we focused on organizing data for future reference and ensuring all project goals and insights were clearly documented. This process improved our documentation presentation skills, confirmed readiness for the final project report compilation, and set a solid foundation for future project reviews.

#### **ACTIVITY LOG FOR THE EIGHTH WEEK**

DAY & DATE	BRIEF DESCRIPTION OF THE DAILY ACTIVITY	LEARNING OUTCOME	Person In-charge Signature
Day -1 Monday 22-07-2024	Compiled all documentation and project findings into a final report	Enhanced skills in report writing and project synthesis	
Day -2 Tuesday 23-07-2024	Drafted the executive summary and conclusion of the report	Developed ability to summarize key findings and implications	
Day -3 Wednesday 24-07-2024	Included references and appendices For supporting documents.	Improved citation skills and understanding of academic reporting	
Day -4 Thursday 25-07-2024	Reviewed the final report with the guide for feedback	Gained insights on effective report presentation and clarity	
Day -5 Friday 26-07-2024	Made final adjustments based on feedback	Ensured all aspects of the report meet academic standards	
Day -6 Saturday 27-07-2024	Submitted the final report and presented project findings	Developed presentation skills and confidence in public speaking	

#### WEEKLY REPORT

#### WEEK – 8 (From Dt:22-07-2024 to Dt:27-07-2024)

**Objective of the Activity Done:** The objective of the final week was to finalize the project report, incorporate feedback, create visual aids, and reflect on the overall experience to improve future project presentations.

#### **Detailed Report:**

This week, we put together all our project documentation and findings into a final report, including references and extra documents for support. After reviewing the report with our guide, we made final changes based on their feedback to ensure it was clear and complete. We focused on organizing the information in a way that was easy to follow and practiced our communication skills to present our findings clearly to the audience. We also created visual aids to make key points easier to understand. After finalizing and submitting the report, we reflected on the entire project experience, noting important lessons, areas of growth, and insights we gained along the way. This reflection helped us understand the impact of our work and prepared us for similar projects in the future.

#### **CHAPTER 5: OUTCOMES DESCRIPTION**

## Details of the Socio-Economic Survey of the Village/Habitation. Attach the questionnaire prepared for the survey.

#### An exhaustive questionnaire has been prepared as follows.

- 1. What inspired you to switch to or start organic farming?
- 2. Name some raw materials used for making organic fertilizers?
- 3.Is seed treatment is important for seed germination?
- 4. Can organic fertilizers increase crop yield without depleting soil quantity?
- 5. How can organic fertilizers increase yields in organic farming?
- 6.Can you describe the organic farming methods you use?
- 7. Are chemical fertilizers harmful and what are the harmful effects of chemical fertilizers?
- 8. How does organic farming impact the environment compared to conventional farming?
- 9.Do you receive any government or community support for organic farming?
- 10. What is soil PH and what is the range of PH for cultivation?
- 11. what are the fundamental fertilizers used in agriculture for cultivation purpose?
- 12. what are the fertilizers used for control the green worm in paddy?
- 13. How many days required for cultivation of paddy in organic farming?
- 14. what is urea fertilizer and why do we use urea in Agriculure?
- 15. what are effects caused by over fertilization?
- 16. what are the types and benefits of usage of organic fertilizers?
- 17. what do you add the soil before you plant a crop?
- 18. what marketing strategies do you use to sell your agricultural produce?
- 19. what are types of inorganic fertilizers write some examples of inorganic fertilizers?
- 20.Are chemical fertilizers harmful what are the harmful effects of chemical fertilizers?
- 21. what is the financial status in a year .Is there any growth in year to year?

#### Describe the problems you have identified in the community

#### The problems identified in the community are given below:

#### 1. Farmers primarily rely on inorganic fertilizers to enhance crop growth:

Farmers rely on inorganic fertilizers for quick crop growth and higher yields due to their immediate nutrient supply. However, excessive use can degrade soil health and lead to environmental pollution. These fertilizers provide short-term results but lack long-term benefits for soil fertility. Over-reliance on them hinders sustainable farming practices.

#### 2. Lack of Nutrient Management Knowledge Impacts Sustainable Soil Productivity:

Farmers need a strong understanding of nutrient management to maintain soil health and support sustainable crop production. Proper nutrient balance helps prevent soil degradation and ensures crops receive essential nutrients over time. Without this knowledge, long-term soil productivity and farm yields may decline.

#### 3. Negative Environmental Impact of Inorganic Fertilizers:

Inorganic fertilizers can harm the environment by causing soil degradation through the depletion of essential organic matter. Their runoff can contaminate water sources, leading to water pollution and harming aquatic ecosystems. Over time, this contributes to reduced soil fertility and long-term environmental damage.

#### 4. Impact of Inorganic Fertilizers on Soil Organisms and Fertility:

Inorganic fertilizers can disrupt the natural balance of soil organisms, such as microbes and earthworms, which are essential for maintaining soil health. Their use reduces biodiversity in the soil, hindering natural nutrient cycling and soil structure. Over time, this harms long-term soil fertility and reduces crop productivity.

#### 5. Health Risks of Inorganic Fertilizer Use for Farmers and Consumers:

Inorganic fertilizers contain harmful chemicals that can contaminate food crops, posing health risks to consumers. Farmers who handle these fertilizers may experience direct exposure to toxic substances ,leading to respiratory,skin, or long term health issues.Improper application can also result in chemical residues in soil and water ,further impacting public health.

#### 6. Limited access to affordable organic fertilizers:

Small-scale farmers often struggle to access organic fertilizers due to limited availability and higher costs. Additionally, they may lack the knowledge or resources to produce these fertilizers themselves in a cost-effective way. This can make it difficult for them to adopt sustainable practices that improve soil health.

#### 7. Improper Use of Organic Fertilizers Can Harm Crop Yields:

Incorrect application of organic fertilizers can disrupt the nutrient balance in soil. Over fertilization can harm plants and the surrounding ecosystem, while nutrient deficiencies can weaken crops and lower yields. Proper knowledge and application are essential for maintaining optimal crop health and productivity.

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 action plans:**

#### Credit bailout to distress farms:

➤ Provide financial assistance to farmers facing crop failure or financial difficulties, helping them recover and continue farming.

#### Fixing of minimum support prices for produce facing glut:

> Set guaranteed minimum prices for crops experiencing overproduction to protect farmers from price drops and ensure stable incomes.

#### Awareness Campaigns:

- ➤ Short-term Objective: Conduct community workshops and information sessions focused on farming benefits, emphasizing the advantages of organic fertilizers.
- ➤ Recommendation: Collaborate with local agricultural experts or NGOs

#### **Access to Organic Inputs:**

- ➤ Short-term Objective: Address immediate access issues for organic fertilizers.
- Recommendation: Establish a temporary distribution center for organic inputs
- Training sessions

#### Long-term action plans:

#### **Education Integration:**

- ➤ Long-term Objective: Integrate organic farming education into local school curriculum.
- ➤ Recommendation: Advocate for the inclusion of modules on sustainable agriculture, Focusing on organic farming, in school syllabus.

#### **Market Support:**

- ➤ Long-term Objective: Create market opportunities for organic produce.
- ➤ Recommendation: Facilitate linkages with organic markets
- > community-supported agriculture (CSA) model to directly connect farmers with consumers.

# Description of the Community awareness programme/s conducted w.r.t the problems and their outcomes.

#### **DESCRIPTION:**

#### **Understanding the Issues:**

- ❖ The program would start by outlining the problems associated with conventional fertilizers.
- ❖ This might include issues like soil degradation, chemical runoff affecting water sources, and reduced biodiversity due to chemical-intensive farming.

#### **Introduction to Organic Fertilizers:**

- ❖ Educating the community about organic fertilizers is crucial. This involves explaining various types of organic fertilizers such as compost, manure, green manure, and organic mineral fertilizers.
- ❖ It would highlight their benefits in enriching soil fertility, enhancing microbial activity, and reducing environmental harm.

#### **Soil Health and Nutrient Management:**

❖ The program would emphasize the importance of maintaining soil health and managing nutrients sustainably.

#### **Environmental Impact:**

- ❖ Highlighting the environmental impact of conventional fertilizers compared to organic alternatives is essential.
- ❖ This would include discussing how chemical fertilizers can lead to water and air pollution, harm to wildlife, and long-term soil degradation.

#### **Workshops and Practical Demonstrations:**

- ❖ Hands-on workshops or demonstrations could showcase how to make compost, use organic fertilizers effectively, and demonstrate their benefits in real-time.
- ❖ Practical sessions tend to have a strong impact on community engagement and understanding.

#### **OUTCOMES:**

- ❖ Increased adoption of organic farming practices within the community.
- ❖ Improved soil health leading to better crop yields.
- \* Reduced reliance on chemical inputs, benefiting the environment.
- ❖ Increased awareness and understanding of sustainable agricultural practices among farmers.
- ❖ Potential policy changes or community-driven initiatives supporting organic farming.

# Report of the community service project work done in the related subject w.r.t the habitation/village

#### Introduction

The project titled Enhancing Crop Productivity Through Organic Fertilizers was initiated with the goal of promoting sustainable farming practices in Kavatavaram, a village known for its agricultural activities. The project aimed to address the challenges posed by conventional chemical fertilizers, which have been detrimental to both the environment and the health of the community. By focusing on organic fertilizers and their benefits, the project sought to educate local farmers on how these alternatives can improve soil health, increase crop productivity, and reduce environmental harm.

In particular, the project centered on educating farmers about sustainable agricultural practices with an emphasis on organic fertilizers suitable for key crops like paddy and blackgram. These crops are vital to the region's economy, and the use of organic fertilizers can significantly improve yields while minimizing the adverse effects of chemical fertilizers. Through a carefully designed website and community-based activities, the project aimed to empower farmers by providing them with valuable knowledge about organic fertilizer types, soil management, and crop-specific guidance.

#### **Key Features of the Website**

The website developed as part of this initiative is a central resource for farmers in Kavatavaram and surrounding areas, designed to provide detailed, easy-to-access information about organic fertilizers and their applications. The key features of the website are:

- ❖ Comprehensive Fertilizer Information: The website includes detailed descriptions of various organic fertilizers suited for crops like paddy and blackgram. Farmers can learn about the specific fertilizers recommended for these crops and understand how each one enhances soil fertility and boosts crop yield. This includes natural fertilizers such as compost, manure, green manure, and organic mineral fertilizers.
- ❖ Detailed Material Lists and Preparation Methods: Each fertilizer type is explained with information about the raw materials required, the method of preparation, and the necessary steps to ensure proper application. This provides farmers with the necessary knowledge to create and use organic fertilizers effectively, ensuring better crop growth and improved soil health.
- ♦ Soil Type Compatibility: The website pays special attention to the soil type in Kavatavaram, which is primarily clayey loam. The information provided helps farmers understand how to tailor fertilizer use to this specific soil type, improving nutrient absorption and preventing issues such as over-fertilization or nutrient imbalances. This ensures that the soil remains healthy and fertile for long-term productivity.

- ❖ Language Selection: Understanding the language barriers that exist in rural areas, the website offers a language selection option in both Telugu and English. This ensures that the information is accessible to all farmers in Kavatavaram, regardless of their preferred language, promoting widespread usage of the website.
- ❖ Practical Guides for Fertilizer Use: The website not only provides theoretical knowledge but also includes practical advice on how to apply organic fertilizers to paddy and blackgram crops at different stages of growth. This guidance ensures that farmers can make the most of their fertilizers and boost their crop yields while maintaining soil health.

#### **Community Engagement and Awareness Campaigns**

Alongside the website, the project engaged in a series of awareness campaigns aimed at educating local farmers about the benefits of organic fertilizers. These efforts included:

- ❖ Workshops and Information Sessions: A series of community workshops were organized to provide farmers with direct knowledge about organic fertilizers. During these sessions, experts explained the benefits of organic fertilizers, how they compare to chemical fertilizers, and how they can help restore soil fertility and improve crop yields. Farmers were encouraged to ask questions and share their experiences.
- ❖ **Demonstration Programs**: Hands-on workshops were conducted where farmers learned how to prepare organic fertilizers like compost, and how to apply them to their crops. These practical demonstrations allowed farmers to see firsthand how organic fertilizers work and how they can implement these methods in their own fields.
- ❖ Collaboration with Experts and NGOs: The project collaborated with local agricultural experts, NGOs, and environmental organizations to deliver accurate and reliable information to the community. Experts shared their knowledge on soil management and organic farming practices, helping to validate the methods presented in the website and workshops.
- ❖ **Promotional Campaigns**: Efforts were made to promote the website through local channels, including community meetings and word-of-mouth, ensuring that all farmers were aware of this valuable resource.

#### **Conclusion:**

The project successfully addressed agricultural challenges in Kavatavaram by encouraging the use of organic fertilizers to improve crop yields and soil health. Farmers participated in workshops and demonstrations, gaining valuable knowledge about sustainable farming practices. The initiative, supported by a dedicated website offering information on fertilizers, methods, and crop-specific guidance, focused on reducing chemical fertilizer reliance, enhancing soil fertility, and promoting environmental sustainability. By equipping farmers with the right tools and knowledge, the project has set the stage for a more sustainable agricultural future in Kavatavaram.

### **Code for website: Registration Login.html:** <!DOCTYPE html> <html lang="en"> <head> <meta charset="UTF-8"> <meta name="viewport" content="width=device-width, initial-scale=1.0"> <title>Login & Registration</title> <style> body { display: flex; justify-content: center; background-image: url('RL.jpg'); background-size: cover; background-position: center; font-family: Arial, sans-serif; font-size: 18px; color: #333; } .container { text-align: center; width: 100%; max-width: 500px; } form { margin-top: 20px; margin-bottom: 25px; input[type="text"], input[type="password"],

```
input[type="email"],
    input[type="tel"] {
      width: 100%;
      padding: 12px;
      margin: 10px 0;
      border: 1px solid #ccc;
      border-radius: 6px;
      box-sizing: border-box;
      font-size: 1.1em;
    }
    input[type="submit"] {
      width: 100%;
      padding: 12px;
      background-color: #007bff;
      border: none;
input[type="submit"]:hover {
     background-color: #0056b3;
    }
# p{
      font-size: 1em;
      color: #333;
    }
#userCount {
      font-weight: bold;
      color: #007bff;
    }
.login-form {
      display: none;
```

```
</style>
  <script>
    function toggleForms() {
      var registrationForm = document.querySelector(".registration-form");
      var loginForm = document.querySelector(".login-form");
     if (registrationForm.style.display === "none") {
        registrationForm.style.display = "block";
       loginForm.style.display = "none";
      } else {
       registrationForm.style.display = "none";
       loginForm.style.display = "block";
      }
    }
    window.onload = function() {
      document.querySelector(".registration-form").style.display = "block";
registration by default
      document.querySelector(".login-form").style.display = "none";
    }
  </script>
</head>
<body>
  <div class="container">
    <div class="registration-form">
      <h2>Register</h2>
      <form action="register.php" method="POST">
        <label for="username">Username:</label>
       <input type="text" id="username" name="username" required>
        <label for="email">Email:</label>
        <input type="email" id="email" name="email" required>
        <label for="phone">Phone Number:</label>
        <input type="tel" id="phone" name="phone" required>
```

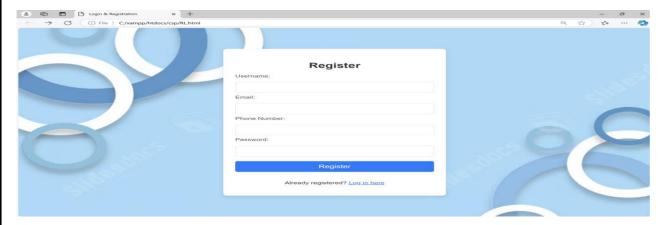
```
<label for="password">Password:</label>
       <input type="password" id="password" name="password" required>
        <input type="submit" value="Register">
      </form>
     Already registered? <span class="toggle-link" onclick="toggleForms()">Log
in here</span>
    </div>
    <div class="login-form">
      <h2>Login</h2>
      <form action="login.php" method="POST">
        <label for="username_login">Username:</label>
       <input type="text" id="username_login" name="username" required>
       <label for="password_login">Password:</label>
        <input type="password" id="password_login" name="password" required>
        <input type="submit" value="Login">
      </form>
     >Don't have an account? <span class="toggle-link"</p>
         onclick="toggleForms()">Register here</span>
    </div>
</div>
</body>
</html>
Login.php:
<?php
session_start();
// Database connection
$servername = "localhost";
$username = "root";
```

```
$password = "";
$dbname = "mysql";
$conn = new mysqli($servername, $username, $password, $dbname);
if ($conn->connect_error) {
  die("Connection failed: ".$conn->connect_error);
}
if ($_SERVER["REQUEST_METHOD"] == "POST") {
  $username = $_POST['username'];
  $password = $_POST['password'];
  $sql = "SELECT * FROM users WHERE username=?";
  $stmt = $conn->prepare($sql);
 $stmt->bind_param("s", $username);
  $stmt->execute();
  $result = $stmt->get_result();
if ($result->num_rows > 0) {
    $user = $result->fetch_assoc();
    if (password_verify($password, $user['password'])) {
      $_SESSION['username'] = $username;
      header("Location: home.html");
      exit();
    } else {
      echo "<script>alert('Invalid password.');</script>";
    }
 } else {
    echo "<script>alert('No account found with that username.');</script>";
  }
  $stmt->close();
  $conn->close();
```

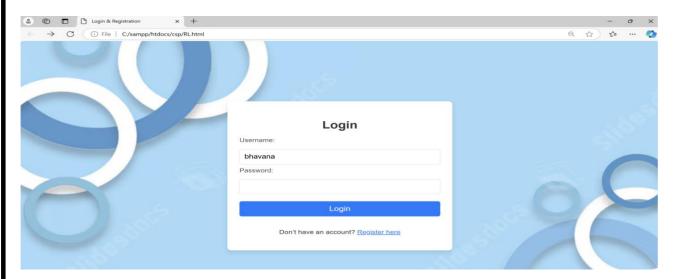
```
Home.html:
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Enhancing Crop Productivity Through Organic Fertilizers</title>
  <style>
    /* General Styles */
    body {
       font-family: Arial, sans-serif;
       background-color: #f0f8ff;
       margin: 0;
       padding: 0;
       color: #333;
      Background-
image:url('https://i.pinimg.com/originals/dd/f4/0b/ddf40b85196cbc1028a907616990ba92.jpg
');
.nav a {
       text-decoration: none;
       font-size: 20px;
       color: white;
       padding: 10px 20px;
       border-radius: 5px;
       font-weight: bold;
       transition: background-color 0.3s ease, transform 0.3s ease;
     }
     .nav .home { background-color: Tomato; }
     .nav .crop-details { background-color: DodgerBlue; }
     .nav .safety { background-color: Orange; }
     .nav .more { background-color: Violet; }
```

```
</style>
</head>
<body>
  <h1>Enhancing Crop Productivity Through Organic Fertilizers</h1>
   <div class="nav">
     <a href="home.html" class="home">Home</a>
    <a href="crop-details.html" class="crop-details">Crop Details(పంట )</a>
    <a href="safety-measures.html" class="safety">Safety Measures</a>
    <a href="about-usage.html" class="more">More</a>
  </div>
<!-- Content Section -->
  <div class="content">
<img src="ss.jpg" alt="og.jpg" height="150px" width="500px" class="image" >
    Organic fertilizers are made from natural materials like animal manure, compost,
and bone meal, and are used to enrich soil and supply essential nutrients to plants. Unlike
synthetic fertilizers, they do not contain harmful chemicals, making them a more
environmentally friendly and sustainable option.
fertilizers is their ability to improve soil structure and fertility over time. They release
nutrients slowly, providing plants with a steady supply of essential elements like nitrogen,
phosphorus, and potassium. This slow release helps prevent nutrient burn and reduces the
risk of leaching, which can harm the environment. Organic fertilizers also promote healthy
soil by encouraging the growth of beneficial microorganisms, which further enhance plant
health.
There are three main types of organic fertilizers: animal-based (e.g., manure, bone meal),
plant-based (e.g., seed meal, kelp), and mineral-based (e.g., rock phosphate). Each type
offers different nutrients and benefits to plants. For example, manure is rich in nitrogen and
improves soil structure, while bone meal is high in phosphorus and promotes root
growth.
Overall, organic fertilizers are a natural, sustainable way to nurture plants, improve soil
health, and reduce environmental impact. They are a valuable option for anyone looking to
cultivate healthy, thriving gardens or crops.
  </div>
</body>
</html>
```

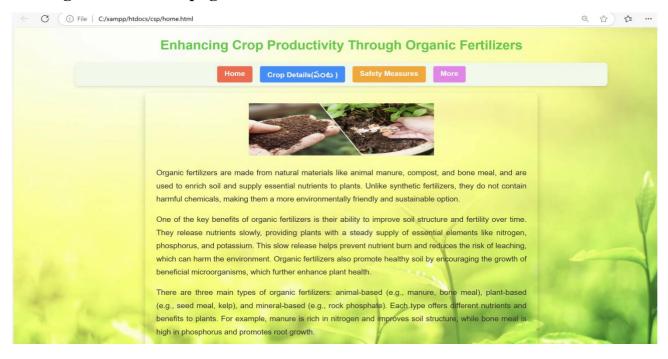
#### Farmer to register into website:



#### Login into website:



#### Getting website home page:



#### By Clicking on the crop details:(paddy,blackgram)

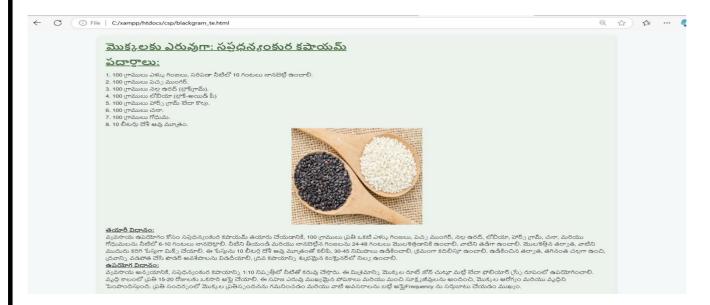


#### By clicking on the submit:









#### By clicking on the safety measures page:



#### By clicking on the More option:



## CHAPTER 6: RECOMMENDATIONS AND CONCLUSIONS OF THE COMMUNITY SERVICE PROJECT

#### Recommendations

**Limit Fertilizer Use:** Avoid overuse of fertilizers to prevent soil degradation and maintain crop health.

**Cultivation Planning:** Begin with a clear crop plan, ensuring soil pH is between 5.5-7.5 for optimal growth.

**Enhance Soil Nutrients:** Improve soil quality by adding cover crops, organic manure, and other natural sources of nutrients.

**Crop Rotation:** Rotate crops to sustain soil fertility, naturally control pests and diseases, and reduce the risk of pest outbreaks.

**Composting:** Use compost made from organic waste to naturally enrich soil, recycling nutrients back into the soil ecosystem.

**Cover Crops:** Plant cover crops during off-seasons to prevent soil erosion, add organic matter, and naturally fix nitrogen in the soil.

**Natural Pest Control:** Employ natural methods like introducing predators, practicing crop rotation, and selecting pest-resistant varieties to manage pests without synthetic chemicals.

**Organic Alternatives:** Avoid synthetic pesticides, fertilizers, and GMOs. Instead, choose organic-approved alternatives for a healthier farming approach.

**Minimal Tillage:** Reduce soil disturbance through minimal tillage practices, helping retain soil structure, moisture, and beneficial microorganisms.

#### **Conclusion:**

The negative impacts of conventional farming in India include unsustainable production, environmental harm, and health risks. Organic farming is increasingly seen as a viable alternative, with other nations converting 2-10% of their agricultural land to organic practices. Although demand for organic products is growing globally at around 20% per year, India lags behind in adoption, with limited progress beyond establishing the National Standards for Organic Production (NSOP) and accrediting a few government agencies.

To boost the growth of organic farming, India needs stronger market development for organic products. The current demand far outstrips supply, partly due to insufficient linkages between producers and consumers. Government support is vital in strengthening these connections and promoting the domestic organic market.

#### **Student Self-Evaluation for the Community Service Project**

Registration No: 22481A1284

Period of CSP: From: 20-05-2024 To:29-06-2024 & From:15-07-2024 To:27-07-2024

1 is lowest and 5 is highest rank

Date of Evaluation:

**Rating Scale:** 

Name of the Person in-charge:

Address with mobile number:

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

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

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

Registration No:22481A1284

Period of CSP: From: 20-05-2024 To:29-06-2024 & From:15-07-2024 To:27-07-2024

Date of Evaluation:

Name of the Person in-charge:

Address with mobile number:

#### Please rate the student's 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 Supervisor

#### **PHOTOS AND VIDEO LINKS**









