GREEN CONSERVATION FOR THE FUTURE

Community Service Project report submitted
in partial fulfillment of the requirement for award of the degree of

Bachelor of Technology
in
Computer Science and Design

By

K.GOPI CHAND	(21UECE0035)	**(VTU20694)**
J.VENKATESWARAO	(21UECE0025)	**(VTU19860)**
K.KASI REDDY	(21UECE0029)	**(VTU20592)**

Under the guidance of
Dr.K.SEETHALAKSHMI,M.E,Ph.D.,
ASSOCIATE PROFESSOR

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DEPARTMENT OF COMPUTER SCIENCE AND DESIGN
SCHOOL OF COMPUTING

VEL TECH RANGARAJAN DR. SAGUNTHALA R&D INSTITUTE OF SCIENCE & TECHNOLOGY

(Deemed to be University Estd u/s 3 of UGC Act, 1956)
Accredited by NAAC with A++ Grade
CHENNAI 600 062, TAMILNADU, INDIA

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CERTIFICATE

It is certified that the work contained in the project report titled ”GREEN CONSERVATION FOR THE FUTURE” by ”K.GOPI CHAND (21UECEOO35), J.VENKATESWARAO (21UECE0025), K.KASI REDDY (21UECE0029)” has been carried out under my supervision and that this work has not been submitted elsewhere for a degree.

Signature of Supervisor
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Associate Professor
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School of Computing
Vel Tech Rangarajan Dr.Sagunthala R&D
Institute of Science & Technology
Nov, 2023

Signature of Head of the Department
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School of Computing
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Institute of Science & Technology
Nov, 2023

Signature of the Dean
Dr. V. Srinivasa Rao
Professor & Dean
Computer Science & Engineering
School of Computing
Vel Tech Rangarajan Dr. Sagunthala R&D
Institute of Science & Technology
Nov, 2023

DECLARATION

We hereby declare that we have completed the mandatory community service project in the stipulated time period in Kurichedu under the guidance ofProject supervisor

(Signature)
K.GOPI CHAND
Date: / /

(Signature)
J.VENKATESWARAO
Date: / /

(Signature)
K.KASI REDDY
Date: / /

APPROVAL SHEET

This project report entitled (”GREEN CONSERVATION FOR THE FUTURE”) by K.GOPI CHAND (21UECE0035), J.VENKATESWARAO (21UECE0025), K.KASI REDDY (21UECE0029) is approved for the degree of B.Tech in Computer Science and Design.

Examiners **Supervisor**

Dr.K.SEETHALAKSHMI,M.E,Ph.D.,
ASSOCIATE PROFESSOR

Date: / /

Place:

ACKNOWLEDGEMENT

express deepest gratitude to respected **Founder Chancellor and President Col. Prof. Dr. R. RANGARAJAN B.E. (EEE), B.E. (MECH), M.S (AUTO),D.Sc., Foundress President Dr. R. SAGUNTHALA RANGARAJAN M.B.B.S.** Chairperson Managing Trustee and Vice President.

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K.GOPI CHAND (21UECE0035)
J.VENKATESWARAO (21UECE0025)
K.KASI REDDY (21UECE0029)

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LIST OF ACRONYMS AND ABBREVIATIONS

CO2	Carbon Dioxide
EV	Electrical Vehicle
EPA	Environmental Protection Agency
GHG	Green House Gas
N2O	Nitrous Oxide
O2	Oxygen

TABLE OF CONTENTS

Chapter 1

EXECUTIVE SUMMARY

Goals and Objectives: :

Goals:

Inform and Summarize: The main goal is to promote the green conservation.To ensure a cleaner,healthier,and more sustainble future for our locality.

Highlight Importance: Green conservation secures biodiversity, combats climate change, safeguards resources, protects health, fosters sustainability, and ensures a better future for all.

Identify Challenges: Identify key challenges political resistance, unsustainable practices, pollution, habitat loss, resource depletion,

Offer Recommendations: Provide renewable energy, sustainable agriculture, reduced waste, and equitable policies to ensure a greener, more sustainable future

Objectives:

Conciseness: Keep the summary short and to the point, ideally within 250-300 words.

Clarity: Use straightforward language and structure to ensure easy understanding.

Comprehensiveness: Cover all essential aspects, including current awareness levels, challenges, and recommended actions.

Engagement: Engage the reader's interest, encouraging further exploration of the topic.

Advocacy: Advocate for the importance of soil protection as a cornerstone of sustainable development.

Intended Impact : To inspire action and promote a heightened sense of responsibility among individuals, communities, policymakers, and organizations. By

raising awareness about the critical importance of soil protection methods, we aim to foster a collective commitment to preserving this finite resource, ensuring sustainable agriculture, mitigating climate change, and safeguarding the future of our planet. Through informed and concerted efforts, we aspire to see improved soil health practices, reduced degradation, and a more resilient global ecosystem.

Beneficiaries :

1.Individuals: Knowledge Enhancement,Healthier Living,Economic Benefits

2.Groups: Increased Productivity,Resource Sharing,Market Access

3. Communities: Food Security,Environmental Resilience,Empowerment

Social Issue :The social issue addressed by the project is the limited awareness of sustainable soil protection methods. This issue is significant because soil health is crucial for global food security, environmental sustainability, climate change mitigation, and the economic stability of communities dependent on agriculture. Addressing this challenge is vital for ensuring a sustainable and resilient future. Explain the significance of the issue and its relevance to the community or society.

Chapter 2

OVERVIEW OF THE COMMUNITY

The Kurichedu village is chosen for undergoing the community service project. It is located in the kurichedu mandal, Ongole, Andhra Pradesh (AP).It is located 17.00' Latitude, 81.80' Longitude. It is bordered by godavari river. as well as godavari district of andhra pradesh(AP).Division of polavaram in the north and kakinada in the south and east godavari in the east and west godavari in the west. It covers an area of 128.1 Sq.Km or24,343 Hectares and a population of 90,885. The 'born city' is another name for Andhra Pradesh's Cultural Capital. The city serves as a commercial centre for the districts of east and west Godavari. The area is well-known for its textile market. Apart from the city's large cloth market, the area earns a lot of money from tourism. Rcognizing the need to create a tourist attraction in the city located on the banks of the Godavari river.

Figure:2

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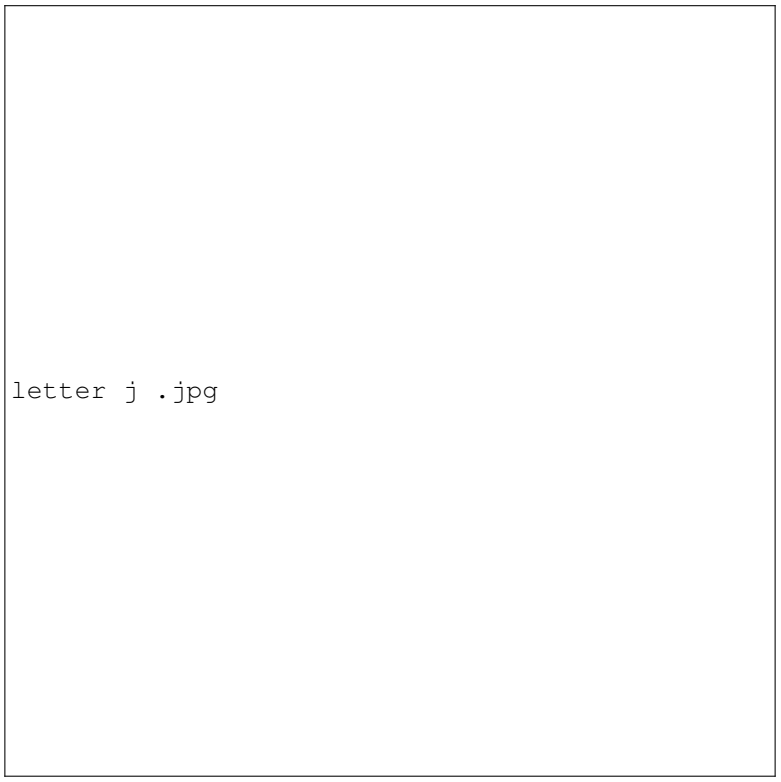
2.1 Certificate from the office of Community



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Chapter 3

ACTIVITY LOG OUTCOME

3.1 Project Activity Log

Date	Brief Description of the daily activity	Learning outcome
26-06-23	Collaborate with local community leaders	Educate the community about project purpose and benefits.
27-06-23	Surveying at the urban areas and rural areas.	Gathering the problems of people.
27-06-23	Gathering Information from the people.	Treating people with respect.
28-06-23	Went to get the permission for the panchayat.	Get sign from her.

Table:3.1

3.2 Project Outcome

The ”Green Conservation for the Future” project envisions a sustainable world where ecosystems thrive, biodiversity flourishes, and humanity lives harmoniously with nature. By promoting reforestation, sustainable agriculture, biodiversity conservation, and climate change mitigation, we aim to restore ecosystems, protect endangered species, reduce emissions, and raise environmental awareness. Anticipated outcomes include increased forest cover, improved habitat quality, resilient communities, thriving wildlife populations, and a well-informed public. Through global collaboration and sustainable practices, we aspire to create a future where the environment is preserved for generations to come, ensuring a balanced and prosperous planet for all.

This Project Survey done at the time of last week of june. We All the Three Team members worked hard Through out the process and the municipal cooperated with us throughout theentire survey process and finally the municipal Officer of rajamundary verified our survey.

Tracking Progress : We defined a clear Objective for the green conservation campaign and continuously monitor the progress of the campaign throughout its duration and collecting the data from the different no of village members.

Communication : Our entire Process we communicated with the different village members and we interacted with the local Authorities like Sarpanch, Councilar, municipal officer to get the more information about our project and through out the process we get interacted with all our teammates.

Documentation : The challenges faced are in the making of Questionnaire Design, Response Rate , Self Reporting Bias,Language and Cultural Barriers

How to Overcome: 1.Improved livelihoods for farmers through sustainable practices

2.Increased forest cover and restored ecosystems.

3.Support the transition to electric vehicles and improve public transportation systems.

4. Set up a designated recycling area in your home or workplace to make it easy to separate recyclable materials from regular waste.

Chapter 4

BACKGROUND SURVEY ANALYSIS FOR PROBLEM STATEMENT

4.1 Background Study

The work of Edward B. Barbier in "Sustainable Development: Definitions, Measures and Determinants" (2005) lays a comprehensive framework for comprehending sustainable development. Barbier emphasizes the integration of economic, social, and environmental objectives, asserting that conservation efforts must be an integral part of broader development strategies. He underscores the need to incorporate measures of natural capital and ecosystem services into economic analyses, aligning with the broader green conservation approach which quantifies and accounts for the value of nature in decision-making processes [1].

Gretchen C. Daily and Paul R. Ehrlich's paper on "Ecosystem Services: From Biodiversity to Society, Part 1" (2009) introduces the critical concept of ecosystem services. This concept highlights how biodiversity directly contributes to the provision of services crucial for human well-being, such as clean water, pollination, and climate regulation. It underscores the fundamental role of biodiversity conservation in green conservation efforts and demonstrates the intricate linkages between biodiversity, ecosystem functioning, and human societies [2].

R. Costanza et al.'s work on "Natural Capital: Theory and Practice of Mapping Ecosystem Services" (2019) provides practical insights into operationalizing the concept of ecosystem services. This paper introduces methodologies for mapping and valuing these services, offering a robust foundation for conservation planning and policy formulation. By quantifying the benefits derived from ecosystems, this research supports the argument for investing in conservation efforts as a means to safeguard critical services that underpin human well-being and economic activities [3].

Jeffrey A. McNeely's paper "Biodiversity Conservation and the Eradication of Poverty" (1995) explores the intricate relationship between biodiversity conserva-

tion and poverty reduction. McNeely argues that sustainable conservation practices can yield significant socio-economic benefits for local communities. The paper emphasizes the potential for conservation initiatives to generate income, employment, and other forms of capital for marginalized populations. This perspective aligns with the green conservation approach, which seeks to balance ecological conservation with socio-economic development [4].

Hugh P. Possingham et al.'s paper on "Conserving Biodiversity Efficiently: What to Do, Where, and When" (2006) introduces the concept of systematic conservation planning. The authors advocate for the use of quantitative tools and spatial analyses to identify priority areas for conservation efforts. This research provides valuable insights into how limited resources can be strategically allocated to achieve maximum conservation impact, aligning with the efficiency-oriented goals of green conservation [5].

Heather Tallis et al.'s paper on "Integrating Ecosystem Services and Conservation: A Framework for Complementary Goals" (2008) underscores the importance of integrating conservation efforts with the delivery of ecosystem services. The research argues for a synergistic approach that recognizes the reciprocal benefits of conservation for both ecological integrity and human well-being. This integrated perspective is central to the green conservation paradigm [6].

Brian Walker and David Salt's book "Resilience Thinking: Sustaining Ecosystems and People in a Changing World" (2006) introduces the concept of resilience as a critical component of conservation strategies. The authors argue for a shift towards adaptive management approaches that acknowledge the dynamic and uncertain nature of ecosystems. This perspective resonates with the green conservation ethos, which emphasizes the need for flexible, adaptive strategies to address evolving environmental challenges [7].

Pushpam Kumar's book "The Economics of Ecosystems and Biodiversity: Ecological and Economic Foundations" (2010) provides a comprehensive exploration of the economic dimensions of ecosystem services. Kumar presents methodologies for valuing these services and demonstrates their significance in economic decision-making. This research supports the case for investing in green conservation by highlighting the tangible economic benefits derived from maintaining healthy ecosystems [8].

Nathalie Pettorelli et al.'s paper on "Rewilding: An Ecological Conservation Approach for the 21st Century" (2018) introduces the concept of rewilding as a proac-

tive conservation strategy. The authors advocate for large-scale restoration efforts aimed at reinstating natural processes and increasing biodiversity. This approach aligns with the green conservation paradigm, which seeks to restore and enhance ecological integrity for the long-term benefit of both humans and the natural world [9].

In conclusion, this comprehensive background survey provides a holistic understanding of the complex and dynamic landscape in which our ”Green Conservation for the Future” project will operate. By synthesizing this information, we can formulate a strategic approach that addresses environmental degradation, engages diverse stakeholders, educates the public, and leverages available resources effectively. The project's success will depend on adaptive management, monitoring, and a commitment to collaboration with local communities and stakeholders, ensuring a more sustainable and harmonious future for both nature and humanity in the target region.

4.2 Survey Analysis with report

This project has conducted the survey in the village and also discussed with all the people and they explained the issues what they are facing . From those issues the ”Green Conservation for the future” as our project

Interaction with the villagers, local authorities,and environment experts has been conducted to understand the air pollution problems of Kurichedu village of polluton Protection System. Our Study encompassed soil protection methods,Farming practices and sustainable practices,to gain a comprehensive understanding of the current situation.

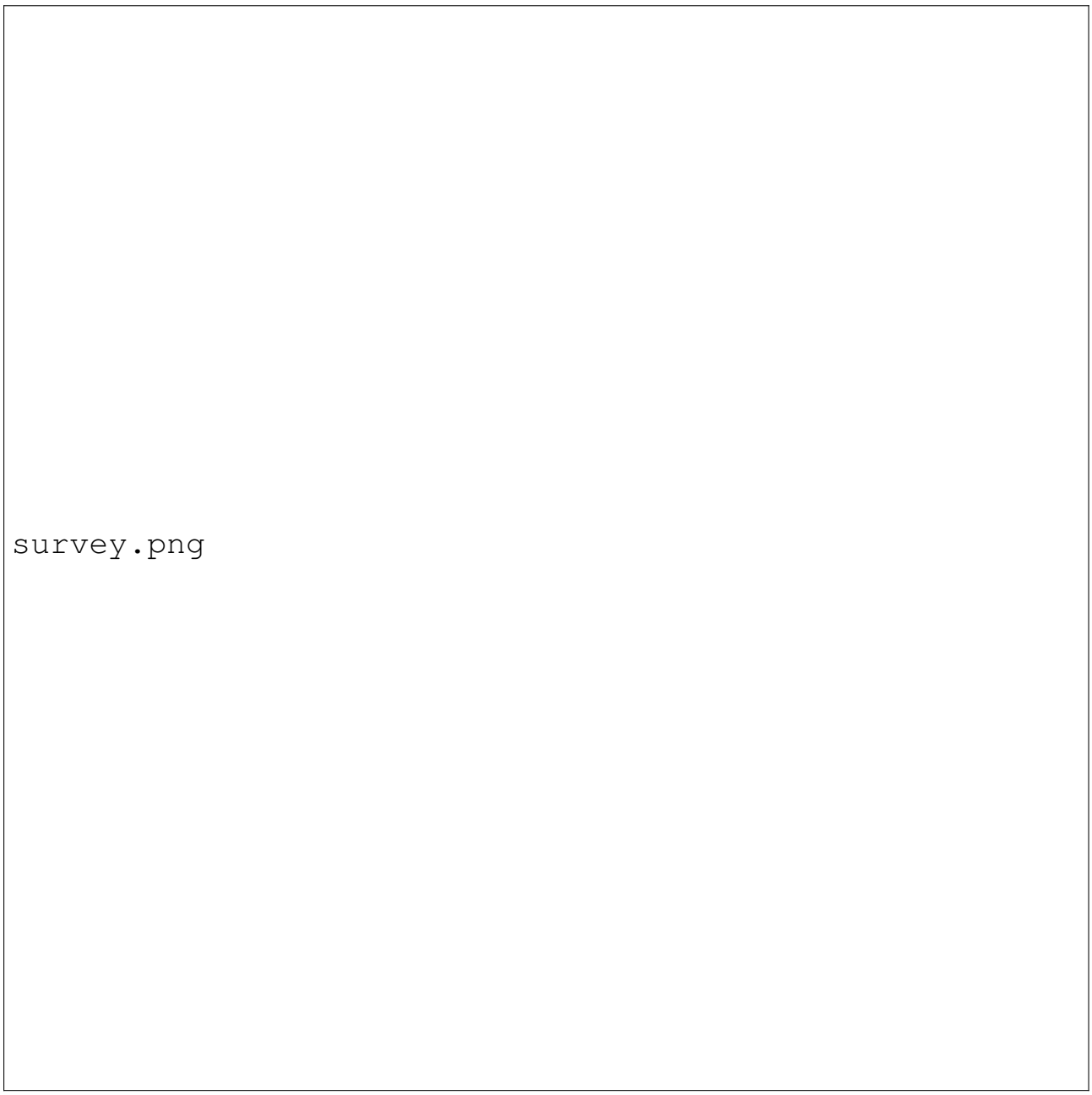
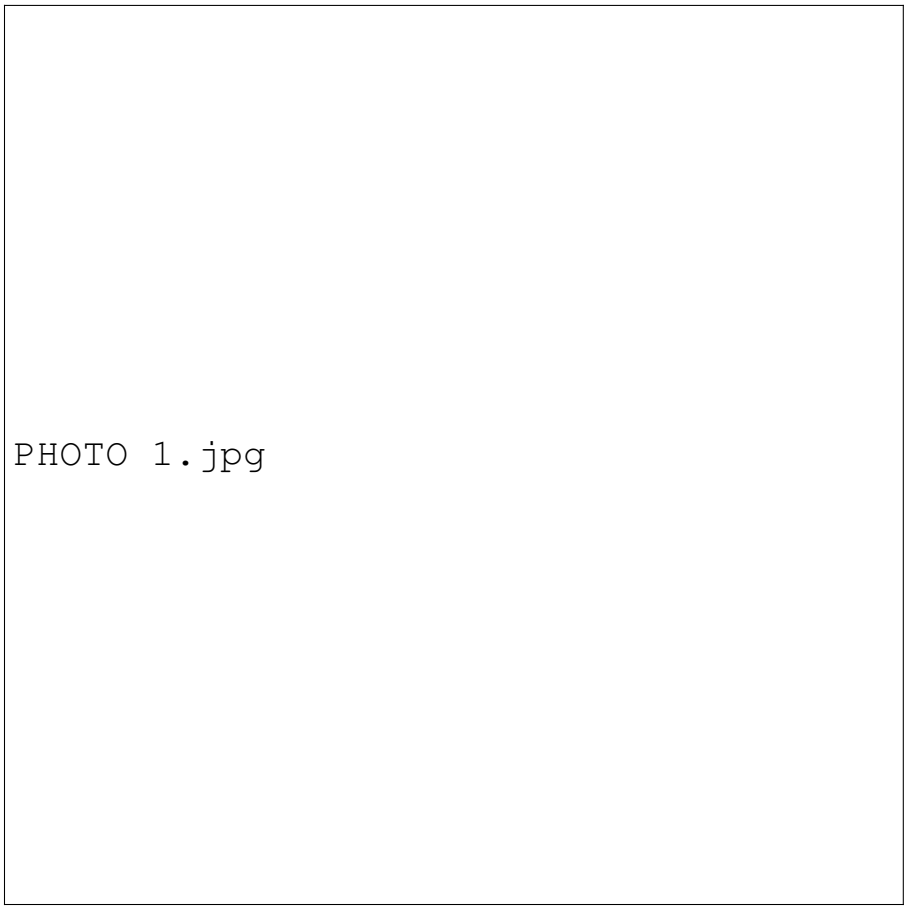


figure 4.2

4.3 Geotagged Photos and Details



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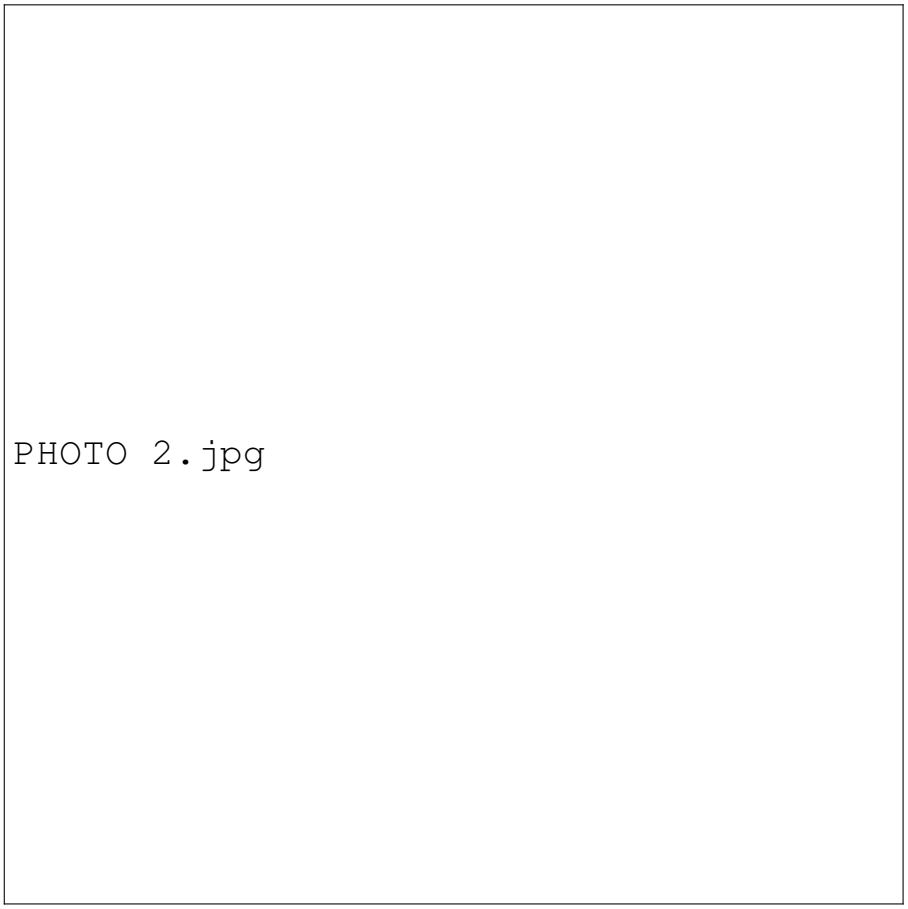

figure 4.3.2

4.4 Society Relevant Problem Identification

Kurichedu village is facing the significant issues of air pollution and water pollution due to the textile factory. we avoid the pollution to plant the more trees and use electric vechicle, heavy deforestation and climate changes, environment issues.

Impact on Society: The deteriorating soil health in Kurichedu village has far-reaching implications for the community and society at large:

1.Climate Change: The Earth is getting hotter, causing problems like extreme weather, rising sea levels, and more. We need to stop doing things that make it worse, like using too much fossil fuel (like oil and gas).

2.Cutting Down Trees: People are cutting down forests too much, which hurts the air we breathe and the animals that live there. We should stop doing this and find better ways to get what we need.

3.Environmental Sustainability: Unhealthy soils contribute to the loss of ecosystem services and disrupt the delicate balance of the local environment, affecting water quality, plant and animal diversity, and carbon sequestration.

4.Dirty Air and Water: Pollution from factories and farms makes the air and water dirty, making people and animals sick. We need to find cleaner ways to make things.

5.Teaching and Learning: We all need to learn more about how to take care of the environment and teach others too, so we can all help save the Earth..

4.5 Development of Problem solution

Issues recognized in the community

Problem: Pollution and Environmental Damage

Solution: Eco-Friendly Practices for a Greener Future

Introduction: Our planet is facing a big problem - pollution and harm to the environment. The things we do every day, like using too much energy, throwing away too much stuff, and cutting down too many trees, are hurting the Earth. But there are simple solutions to these problems that can make our future much better and greener

Solution: Eco-Friendly Practices for a Greener Future:

1. Reduce, Reuse, Recycle:

Problem: Too much trash.

Solution: Use less, reuse what you can, and recycle materials like paper, plastic, and glass to reduce waste.

2. Clean Energy:

Problem: Dirty air and fossil fuel depletion.

Solution: Use clean energy sources like solar and wind power, which don't harm the environment.

3.Walk, Bike, or Carpool:

Problem: Too many cars causing pollution.

Solution: Use your car less. Walk, bike, or share rides to reduce emissions

4.Support Green Policies:

Problem: Lack of rules to protect the environment.

Solution: Vote for leaders who care about the environment and support laws that promote conservation

Chapter 5

RECOMMENDATIONS AND CONCLUSION

5.1 Recommendations

In the pursuit of green conservation for a sustainable future, it is imperative to heed the insights provided by a body of influential research. Sustainable development, as defined by Barbier, stands as a fundamental principle. This approach emphasizes the balance between economic growth, social equity, and environmental protection, underscoring the need for responsible resource use to meet current needs without compromising those of future generations [1].

Ecosystem services, as expounded by Daily and Ehrlich, represent a critical link between biodiversity and human well-being. These services, ranging from pollination to climate regulation, underscore the intrinsic value of diverse ecosystems in providing essential benefits to society. Recognizing and valuing these services is integral to effective conservation efforts [2].

Costanza et al. advocate for the comprehensive mapping and assessment of natural capital and ecosystem services. This foundational understanding guides targeted conservation interventions by identifying priority areas and strategies for maximum impact. It provides a roadmap for informed decision-making in resource allocation and conservation planning [3].

A key insight from McNeely's work is the symbiotic relationship between biodiversity conservation and poverty eradication. Conservation efforts that integrate measures to uplift local communities and provide sustainable livelihoods are more likely to succeed in the long term. This holistic approach recognizes that human well-being is intricately linked with the health of ecosystems [4].

Efficiency in biodiversity conservation strategies, as emphasized by Possingham et al., calls for a nuanced approach. By considering where and when interventions are most effective, conservation efforts can be optimized. This targeted

approach not only maximizes biodiversity preservation but also minimizes resource expenditure, a crucial consideration for long-term success [5].

Sodhi and Ehrlich stress the importance of disseminating conservation knowledge widely. Educating communities about the significance of biodiversity and the benefits of conservation practices fosters a culture of environmental stewardship. This knowledge-sharing approach empowers individuals and communities to actively engage in conservation efforts [6].

Tallis et al. propose a framework that advocates for the integration of ecosystem services and conservation objectives. Recognizing the synergies between conservation goals and the benefits they provide to society is critical. This approach underscores that effective conservation practices can simultaneously enhance human well-being through the provision of vital ecosystem services [7].

Resilience thinking, introduced by Walker and Salt, offers a transformative perspective on sustaining ecosystems and human communities in a changing world. This approach emphasizes the importance of building adaptive capacity, ensuring that ecosystems and communities can withstand and recover from disturbances. It is a proactive strategy that promotes long-term sustainability in the face of environmental change [8].

Kumar's work underscores the economic dimension of ecosystems and biodiversity. By incorporating economic valuation, policymakers and stakeholders gain a deeper understanding of the tangible benefits provided by natural assets. This knowledge can inform policy decisions and guide investments towards conservation efforts that yield both environmental and economic returns [9].

The concept of rewilding, advocated by Pettorelli et al., presents an innovative conservation approach. It involves the restoration of ecosystems to a more natural state, allowing for the recovery of biodiversity and ecological processes. Rewilding represents a proactive strategy for reviving and revitalizing degraded landscapes, ultimately contributing to the preservation of biodiversity [10].

5.2 Conclusion

In conclusion, green conservation for the future is not just a choice but an imperative for the well-being of our planet and future generations. The challenges posed by climate change, biodiversity loss, pollution, and resource depletion require immediate and sustained action. Green conservation is not solely the responsibility of governments or organizations; it's a collective effort that involves individuals, communities, businesses, and policymakers.

By addressing these challenges and adopting sustainable practices, we can create a world where the environment is protected, natural resources are preserved, and ecosystems thrive. This future envisions cleaner air and water, abundant wildlife, sustainable agriculture, and renewable energy sources. It's a future where environmental justice prevails, and all communities have access to a healthy environment.

To achieve this vision, we must continue to raise awareness, educate ourselves and others, and advocate for policies and practices that prioritize green conservation. By making conscientious choices in our daily lives, supporting green initiatives, and holding ourselves accountable, we can contribute to a more sustainable, harmonious, and green future for our planet. The time to act is now, and our commitment to green conservation will shape the world we leave for future generations.

Appendix A

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