

GREEN AGEING AND WELLBEING OF OLDER ADULTS IN KERALA

*A Dissertation submitted to the University of Kerala in Partial Fulfilment of
Requirements for the Master of Social Work Degree Examination*

SUBMITTED BY

Name: Mr. NIXEN MATHEW

Candidate Code: LC24PSW17

Subject Code: SW 547



DEPARTMENT OF SOCIAL WORK

LOYOLA COLLEGE OF SOCIAL SCIENCES (AUTONOMOUS)

SREEKARIYAM, THIRUVANANTHAPURAM

UNIVERSITY OF KERALA

2024- 2026

CERTIFICATE OF APPROVAL

This is to certify that this dissertation entitled “**Green Ageing and Wellbeing of Older Adults in Kerala**” is a record of genuine work done by Mr. NIXEN MATHEW, fourth semester Master of Social Work student of this college under my supervision and guidance and that it is hereby approved for submission.

10-07-2026
Sreekariyam

Dr Francina P X
Research Supervisor, Department of Social Work
Loyola College of Social Sciences, Autonomous
Sreekariyam, Thiruvananthapuram

Dr. Francina P X
HoD, Department of Social Work
Loyola College of Social Sciences, Autonomous
Sreekariyam, Thiruvananthapuram

Dr. Prakash Pillai R.
Principal

DECLARATION

I, **NIXEN MATHEW**, do hereby declare that the dissertation “**Green Ageing and Wellbeing of Older Adults in Kerala**” is the result of my original research conducted during the academic years 2024-2026. This work is submitted to the University of Kerala as part of the requirements for the **Master of Social Work** Degree Examination. I confirm that it has not been previously submitted for any other degree, diploma, fellowship, or similar academic recognition.

Sreekariyam

NIXEN MATHEW

10-07-2026

ACKNOWLEDGMENTS

With immense gratitude and deep respect, I wish to express my heartfelt thanks to all those who have supported and guided me throughout the journey of completing this research study titled “Green Ageing and Wellbeing of Older Adults in Kerala.”

First and foremost, I extend my sincere thanks to my esteemed research guide, Dr. Francina P. X., whose valuable guidance, constant encouragement, and insightful feedback have been crucial at every stage of this research. Your patience, expertise, and belief in my abilities have been a source of inspiration.

I express my profound gratitude to Dr Prakash Pillai R., Principal of Loyola College of Social Sciences, Rev. Dr. Sabu P Thomas, former Principal in Charge of Loyola College of Social Sciences, Dr. Francina P X., Head of the Department and My gratitude extends to Dr. Jasmine Sarah Alexander, Fr. Saji S. J., Ms Melbin Joseph and Dr Kannan G S. faculty members of the Department of Social Work, Loyola College of Social Sciences, Sreekariyam, for their unwavering support, constructive suggestions, and encouragement throughout my academic journey. Your wisdom and guidance have shaped my learning and growth.

My sincere gratitude goes to Dr. Sunil Kumar, Librarian, and Mr. George Mathew, Assistant Librarian, of Loyola College of Social Sciences, for their timely help and assistance in accessing resources and facilitating the smooth progress of my research work.

My special thanks go to all my respondents who willingly shared their experiences and opinions. Without their cooperation, this study would not have been possible. To my dear friends and classmates, your companionship, encouragement, and constant support have made this journey lighter and more joyful. Thank you for standing by me through the highs and lows.

TABLE OF CONTENTS

CHAPTER 1.....	1
INTRODUCTION	1
1.1 Conceptual Understanding.....	1
1.2 Statement of the Problem.....	3
1.3 Background of the Study	3
1.4 Relevance and Significance of the Study	4
1.5 Organization of the Study	5
1.6 Conclusion	5
CHAPTER 2.....	6
REVIEW OF LITERATURE	6
2.1 Introduction.....	6
2.2 Social Wellbeing	6
2.3 Psychological Wellbeing.....	8
2.4 Physical Wellbeing.....	10
2.5 Overall Wellbeing	12
2.6 Theoretical Framework	13
2.6.1 Continuity Theory (Atchley, 1989).....	13
2.6.2 Activity Theory (Havighurst, 1961).....	14
2.6.3 Successful Ageing Theory (Rowe & Kahn, 1997).....	15
2.6.4 Ecopsychology (Roszak, 1992)	16
2.6.5 Self-Determination Theory (Deci & Ryan, 1985)	16
2.6.6 Attention Restoration Theory (Kaplan & Kaplan, 1989).....	17
2.7 Research Gap	18
CHAPTER 3.....	19
RESEARCH METHODOLOGY	19
3.1 Introduction.....	19

3.2 Theoretical and Operational Definitions of Concepts	19
3.3 Research Questions.....	21
3.4 Research Design	22
3.5 Inclusion Criteria	22
3.6 Exclusion Criteria	22
3.7 Sources of Data.....	22
3.8 Pilot Study.....	22
3.9 Area of Study	23
3.10 Research Approach	23
3.11 Sampling	23
3.12 Methods and Techniques.....	23
3.13 Data Analysis	24
3.14 Ethical Considerations	24
3.15 Limitations of the Study	24
CHAPTER 4.....	25
NARRATIVE CASE DESCRIPTIONS.....	25
4.1 Introduction.....	25
4.2 Participants' Description.....	25
4.2.1 Participant 1	25
4.2.2 Participant 2	28
4.2.3 Participant 3	30
4.2.4 Participant 4	32
4.2.5 Participant 5	35
4.2.6 Participant 6	38
4.2.7 Participant 7	40
4.2.8 Participant 8	43
4.2.9 Participant 9	45
CHAPTER 5.....	48

ANALYSIS AND INTERPRETATION	48
5.1 Introduction.....	48
5.2 Socio-Demographic Profile and its Interpretation.....	48
5.3 THEME 1: DEEPLY EMBEDDED NATURE OF AGRICULTURE AS A LIFE- COURSE IDENTITY	50
5.3.1. Structurally Embedded in Socio-Cultural Upbringing	51
5.3.2. Agriculture Re-Emerges in Later Life as a Return to Roots.....	53
5.3.3 Agriculture as a Core Identity beyond Economic Utility	55
5.4 THEME 2: INTEGRATION OF NATURE-BASED ACTIVITIES INTO DAILY ROUTINE AND DISCIPLINED LIFE	57
5.4.1 Nature-Based Activities as a Source of Rhythmic and Structured Daily Life....	58
5.4.2 Discipline, Responsibility and Meaningful Engagement in Later Life	60
5.4.3 Nature as a Regulator of Time, Body, and Life Rhythm	62
5.4.4 Routine as a Protective Mechanism against Psychological Decline.....	64
5.5 THEME 3: ECOLOGICAL ACTIVITIES BRING MULTIDIMENSIONAL HEALTH BENEFITS	66
5.5.1 Ecological Activities as Informal Physical Exercise	67
5.5.2 Ecological Engagement as a Therapeutic and Healing Process.....	68
5.5.3 Sustaining Functional Ability and Active Ageing Despite Physical Decline	70
5.5.4 Ecological Engagement as an Embodied Experience of Vitality and Energy	72
5.6 THEME 4: ECOLOGICAL ENGAGEMENT AND MENTAL HEALTH WELL- BEING	74
5.6.1 Green Activities as a Medium for Emotional Ventilation and Psychological Release.....	75
5.6.2 Ecological Engagement as a Strategy to Overcome Loneliness and Existential Emptiness.....	77
5.6.3 Emotional Regulation and Development of Psychological Resilience	79
5.7 THEME 5: ECOLOGICAL ACTIVITIES AS A MEDIUM OF SOCIAL CONNECTION AND COMMUNITY BONDING.....	81

5.7.1 Cooperation and Social Capital Formation through Ecological Practices.....	82
5.7.2 Social Networks as Pillars of Care, Belongingness and Emotional Security	84
5.7.3 Ecological Engagement as a Pathway to Community Participation and Environmental Stewardship.....	86
5.8 THEME 6: EXPERIENCE OF AGEING AND TRANSITION THROUGH ECOLOGICAL ENGAGEMENT	88
5.8.1 Recognition of Physical Decline and Adaptive Engagement with Ecological Activities	89
5.8.2 Ecological Activities as a Pathway to Successful Ageing through Adaptive Coping.....	91
5.8.3 Ecological Engagement as a Substitute for Occupational Identity and Role Continuity	92
5.8.4 Ecological Engagement as a Continuity Mechanism and Source of Life Meaning	94
5.9 THEME 7: ENVIRONMENTAL AWARENESS AND EXPERIENCED ECOLOGICAL CHANGE	96
5.9.1 Perceived Instability in Weather Patterns and its Impact on Everyday Life.....	97
5.9.2 Human–Wildlife Conflict and Ecological Threats to Livelihood and Emotional Stability	98
5.9.3 Ecological Consciousness and Experiential Environmental Knowledge	100
5.10 THEME 8: STRUCTURAL CHANGES AND DECLINING SUSTAINABILITY OF AGRICULTURE.....	101
5.10.1 Labour Shortage and Decline of Work Ethic in Agricultural Sector	102
5.10.2 Policy Gaps, Bureaucratic Challenges and Misuse of Agricultural Subsidies	104
5.10.3 Lack of Fair Pricing and Economic Insecurity in Agriculture.....	106
5.10.4 Declining Interest of Younger Generation and Threat to Intergenerational Continuity	107
5.11 Conclusion	109
CHAPTER 6.....	111
FINDINGS, RECOMMENDATIONS AND SOCIAL WORK IMPLICATIONS.....	111

6.1 Introduction.....	111
6.2 Major Findings of the Study	111
6.2.1 Early Ecological Socialization Shapes Lifelong Engagement.....	111
6.2.2 Retirement Strengthened Rather than Initiated Ecological Engagement.....	112
6.2.3 Agriculture Emerged as a Core Identity Beyond Economic Utility	113
6.2.4. Nature-Based Activities Become Integrated into Everyday Routine.....	114
6.2.5. Ecological Activities Promote Functional Physical Health	115
6.2.6 Ecological Engagement Supports Active Ageing Despite Physical Decline	116
6.2.7 Nature Regulates Daily Rhythm and Healthy Living.....	117
6.2.8 Nature-Based Activities Promote Mental Peace and Emotional Well-being	118
6.2.9 Ecological Engagement Supports Emotional Regulation and Coping	119
6.2.10 Farming Strengthens Psychological Resilience.....	120
6.2.11 Green Activities Foster Purpose, Meaning, and Psychological Fulfilment	121
6.2.12 Ecological Activities Strengthen Social Relationships through Reciprocity and Mutual Support	123
6.2.13 Farming Encourages Community Participation and Collective Responsibility	124
6.2.14 Ecological Engagement Facilitates Intergenerational Relationships and Knowledge Transfer.....	124
6.2.15 Structural and Environmental Changes Influence the Social Sustainability of Ecological Engagement	125
6.3 Recommendations.....	126
6.4 Social Work Implications.....	127
6.5 Conclusion	130
REFERENECE	133
APPENDIX.....	137

ABSTRACT

Population ageing has emerged as one of the most significant demographic transformations worldwide, creating new challenges for promoting healthy and active ageing. In Kerala, where the proportion of older adults is steadily increasing, there is growing recognition of the need for sustainable and culturally relevant approaches that enhance the physical, psychological, and social well-being of older persons. Ecological engagement, particularly through nature-based activities such as agriculture, gardening, and animal care, has gained attention as a potential pathway for improving quality of life among older adults. However, limited qualitative research has explored how older adults themselves experience these activities in their everyday lives.

The present study aimed to explore the lived experiences of older adults regarding ecological engagement and its influence on their overall well-being. A qualitative research approach with a phenomenological design was adopted to understand participants' subjective meanings and experiences. Nine older adults aged 60 years and above, actively engaged in ecological activities, were selected through purposive sampling from Kottayam, Idukki, Kannur, and Thiruvananthapuram districts of Kerala. Data were collected through in-depth semi-structured interviews and analysed using Braun and Clarke's thematic analysis.

The findings revealed that ecological engagement was deeply rooted in participants' socio-cultural upbringing and agricultural traditions, re-emerging in later life as a meaningful way of maintaining continuity, purpose, and identity. Nature-based activities contributed to physical vitality, structured daily routines, emotional well-being, resilience, social connectedness, and a sense of productivity. Participants also highlighted challenges including climate change, labour shortages, declining youth participation in agriculture, human–wildlife conflict, and inadequate economic returns.

The study concludes that ecological engagement represents a holistic and culturally relevant strategy for promoting healthy ageing. The findings underscore the importance of integrating nature-based interventions into gerontological social work practice, community development programmes, and public policies that foster active, healthy, and sustainable ageing.

Keywords: Healthy Ageing, Ecological Engagement, Green Ageing, Older Adults, Phenomenology, Nature-Based Activities, Well-being, Gerontological Social Work, Kerala

CHAPTER 1

INTRODUCTION

1.1 Conceptual Understanding

Ageing is a universal and inevitable process; however, the experience of ageing is shaped by broader socio-cultural, economic, and environmental contexts. Globally, population ageing is accelerating at an unprecedented rate, with the number of people aged 60 years and above expected to reach 2.1 billion by 2050 (World Health Organization, 2022). In India, the elderly population has increased from 8.6% in 2011 to an estimated 10.1% in 2021, with projections suggesting that it will rise to nearly 19–20% by 2050 (Government of India, 2016; United Nations Population Fund, 2023). Kerala, in particular, is at the forefront of this demographic transition, with approximately 16.5% of its population aged 60 and above, a figure significantly higher than the national average (UNFPA, 2023; Irudaya Rajan et al., 2020). These trends indicate the urgent need to reconceptualize ageing beyond a biomedical framework and to understand it as a multidimensional experience involving physical, psychological, and social well-being.

Within this emerging discourse, the concept of green ageing has gained increasing scholarly attention. Green ageing refers to a process of ageing that is supported and enhanced through meaningful interaction with natural environments and ecological practices. It emphasizes the role of nature-based activities such as farming, gardening, and environmental stewardship in promoting holistic well-being among older adults (Capaldi et al., 2015; Brymer et al., 2020). Research suggests that exposure to green environments contributes to reduced stress, improved cognitive functioning, and enhanced life satisfaction (Gascon et al., 2015; Collins et al., 2020). In this sense, green ageing represents an integrative approach that connects environmental sustainability with human development.

Individuals aged 60 years and above are described by various terms in academic literature and policy documents, including *elderly*, *senior citizens*, and *older adults*. Although these terms are often used interchangeably, they differ in meaning and context. The term *elderly*, derived from the Old English *eald* (old), traditionally refers to people in later life but is increasingly viewed as carrying connotations of frailty, dependency, and decline (WHO, 2021). The term *senior citizen*, originating from the Latin *senior*

meaning "older," is primarily used in legal and policy contexts to denote individuals eligible for age-related rights and welfare benefits. In India, the Maintenance and Welfare of Parents and Senior Citizens Act, 2007, and the National Policy on Older Persons (1999) define a senior citizen as a person aged 60 years or above. In contrast, older adults has become the preferred terminology in contemporary gerontology, public health, and social work because it adopts a person-centred perspective that recognizes ageing as a normal stage of the life course rather than a condition of dependency. The term emphasizes dignity, autonomy, functional ability, and continued participation in society (WHO, 2020; United Nations, 2023). Therefore, the present study consistently uses the term older adults to refer to individuals aged 60 years and above, as it best reflects the study's focus on their lived experiences of ecological engagement and their continuing physical, psychological, and social well-being.

Closely linked to this is the concept of ecological engagement, which refers to the active participation of individuals in nature-based activities and environmentally meaningful practices. Ecological engagement is particularly relevant in rural contexts, where such activities are embedded in everyday life and cultural practices (Krasny et al., 2014). In Kerala, traditional agrarian lifestyles have historically fostered close relationships between individuals and their natural environment, making ecological engagement both accessible and culturally meaningful (Harilal, 2017).

The significance of ecological engagement becomes more evident when examined in relation to overall well-being, which encompasses physical, psychological, and social dimensions. Physically, nature-based activities provide moderate and sustained forms of exercise that contribute to mobility, cardiovascular health, and functional independence (WHO, 2022; Gascon et al., 2015). Psychologically, interaction with nature has been shown to reduce anxiety, depression, and stress while promoting emotional regulation and mental clarity (Collins et al., 2020; Capaldi et al., 2015). Socially, ecological practices encourage cooperation, sharing, and community participation, thereby strengthening social networks and reducing isolation (Holt-Lunstad & Smith, 2012; Irudaya Rajan et al., 2020). Thus, green ageing and ecological engagement together provide a holistic and culturally relevant framework for promoting well-being in later life.

1.2 Statement of the Problem

The rapid growth of the older adult population has emerged as one of the most significant demographic changes worldwide, presenting both opportunities and challenges for individuals, families, and societies. In India, older adults are projected to constitute nearly 20% of the total population by 2050, while Kerala, owing to its advanced demographic transition, is expected to have nearly one-fourth of its population aged 60 years and above by 2036 (Government of India, 2016; UNFPA, 2023). Although increased life expectancy reflects improvements in healthcare and socio-economic development, it also raises important concerns regarding the quality of life and overall well-being of older adults. Research indicates that ageing is frequently associated with physical health problems, loneliness, social isolation, reduced social participation, and psychological distress (LASI, 2020; WHO, 2022). In Kerala, these challenges are further intensified by the migration of younger family members and the gradual shift from joint to nuclear family systems, which have weakened traditional caregiving networks and increased the risk of emotional and social vulnerability among older adults (Irudaya Rajan et al., 2020).

In recent years, growing evidence has highlighted the positive contribution of nature-based activities such as gardening, farming, and other ecological engagements in promoting physical, psychological, and social well-being among older adults (Capaldi et al., 2015; Brymer et al., 2020). However, despite Kerala's rich agrarian heritage and widespread practice of home gardening and agriculture, limited empirical research has examined ecological engagement as a resource for healthy ageing within the Indian context. Furthermore, the concept of green ageing remains largely absent from social work research, practice, and policy discourse. This gap underscores the need to understand how ecological engagement influences the multidimensional well-being of older adults, particularly in rural Kerala where interaction with nature continues to be an integral part of everyday life. Therefore, the present study seeks to explore the role of ecological engagement in enhancing the physical, psychological, and social well-being of older adults in rural Kerala.

1.3 Background of the Study

Kerala offers a unique context for examining ageing due to its advanced demographic transition and strong socio-cultural foundations. The state has achieved high levels of human development, including literacy rates above 96% and life expectancy exceeding

75 years (Government of Kerala, 2021). However, these achievements have also resulted in a rapidly ageing population, creating new social and economic challenges (UNFPA, 2023).

Traditionally, Kerala's rural economy has been closely linked to agriculture, with practices such as paddy cultivation, coconut farming, and home gardening forming an integral part of daily life. These practices have historically fostered strong connections between individuals, communities, and the natural environment (Harilal, 2017). For older adults, such ecological engagement often continues into later life, providing a sense of continuity and purpose.

However, recent decades have witnessed significant socio-economic transformations, including increased migration, urbanization, and shifts in occupational patterns. These changes have led to the decline of traditional agrarian practices and the weakening of community-based support systems (Rajan et al., 1999). Additionally, environmental challenges such as climate change, unpredictable rainfall, and declining soil fertility have further affected agricultural sustainability (Government of Kerala, 2021).

Despite these challenges, many older adults in rural Kerala continue to engage in ecological activities, adapting to changing circumstances while maintaining traditional practices. This persistence suggests that ecological engagement is not merely a livelihood strategy but a meaningful aspect of life that contributes to well-being. However, the extent and nature of this contribution remain underexplored in academic research. The present study, therefore, seeks to bridge this gap by examining the lived experiences of older adults engaged in ecological activities and understanding their implications for well-being.

1.4 Relevance and Significance of the Study

The relevance of the present study lies in its focus on the intersection of ageing, ecology, and well-being, an area that is gaining importance in both academic and policy discussions. With Kerala experiencing one of the highest ageing rates in India, addressing the needs of older adults has become a critical priority (UNFPA, 2023). In this context, the concept of green ageing offers a promising framework that aligns with both individual well-being and environmental sustainability.

This study is significant as it contributes to the limited body of literature on ecological engagement and ageing in the Indian context. By focusing on rural Kerala, it highlights

the ways in which traditional practices can be understood as resources for promoting well-being. The study also provides valuable insights for social work practice, particularly in developing community-based and culturally relevant interventions.

Furthermore, the study has policy relevance as it aligns with global frameworks such as the Sustainable Development Goals, particularly those related to health, well-being, and sustainable communities (United Nations, 2015). By linking ecological engagement with ageing, the study emphasizes the role of older adults as active contributors to both community life and environmental sustainability.

1.5 Organization of the Study

The dissertation is organized into six chapters to ensure a systematic presentation of the study. Chapter One introduces the study, outlining the conceptual framework, problem statement, background, and significance. Chapter Two reviews relevant literature on ageing, ecological engagement, and well-being. Chapter Three describes the research methodology, including design, sampling, and data collection. Chapter Four presents the verbatim narratives of participants. Chapter Five focuses on analysis and interpretation of the data. Chapter Six presents the findings, recommendations, and social work implications derived from the study.

1.6 Conclusion

In conclusion, this chapter has laid the conceptual and contextual foundation for understanding the relationship between ecological engagement and well-being among older adults. By situating the study within the broader framework of demographic ageing, particularly in Kerala, it highlights the urgency of addressing the multidimensional challenges faced by the elderly population. The discussion on green ageing and ecological engagement underscores their potential as culturally relevant and sustainable approaches to promoting physical, psychological, and social well-being. Furthermore, the chapter identifies a critical research gap in the Indian context, thereby justifying the need for the present study. Overall, this chapter sets the stage for a deeper exploration of how ecological practices can contribute to meaningful and healthy ageing.

CHAPTER 2

REVIEW OF LITERATURE

2.1 Introduction

Chris Hart's (1998) defines a literature review as "*the selection of available documents (both published and unpublished) on the topic ... and the effective evaluation of these documents in relation to the research being proposed.*" A Review of Literature is an important part of any research work. It means reading and understanding what other scholars have already written about the topic we are studying. By going through these previous studies, we get a clear picture of what is already known and what is still missing. This helps us understand our topic better, avoid repeating the same work, and find new areas that need more exploration. In short, a literature review guides the researcher, gives a strong foundation for the study, and shows why the research is necessary.

The topic of the research is Green ageing practices and well-being of older adults in Kerala. Green Ageing, which means involving older adults in nature-based activities, can help reduce issues. Spending time in nature through activities like gardening, walking in parks, or community farming can improve the mental health and social life of the elderly. Already there are some simple practices that support the well-being of the older adults, but these practices have not been studied or recognized as an effective opportunity. This study is mainly looking how green ageing practices contribute to the overall well-being of older adults in Kerala.

2.2 Social Wellbeing

Social wellbeing in later life is closely linked with the quality of everyday environments in which older adults live, meet others, and participate in community life. The reviewed studies show that access to well-designed and well-maintained green spaces has a strong potential to enhance social relationships, reduce feelings of loneliness, and strengthen a sense of belonging among older people. Green spaces such as neighbourhood parks, community gardens, and shaded walking paths offer informal, low-cost and non-threatening settings where older adults can interact with neighbors, friends, and family members on a regular basis. These spaces create opportunities for casual conversations, shared activities like walking or light exercise, and participation in group events, all of which contribute to the social dimension of healthy ageing.

Kemperman and Timmermans (2014) examined how green spaces in the direct living environment influence social contacts of the ageing population in the Netherlands. Their findings show that the presence of trees, grassy areas, and well-kept green spaces in a neighbourhood is positively associated with increased social contacts among older adults. Importantly, the study highlights that social benefits do not arise simply from the existence of greenery, but from the quality, accessibility, and perceived safety of these spaces. Well-maintained and attractive green areas encouraged older adults to go outside, stay longer in public spaces, and interact with others, while neglected or unsafe spaces reduced social use and increased feelings of isolation.

From the perspective of environmental gerontology, González and Egea-Jiménez (2021) emphasize that outdoor green spaces can support active ageing by promoting mobility, social participation, emotional wellbeing, and autonomy among older adults. Their work points out that when parks and green areas are designed with age-friendly features, such as benches, proper lighting, accessible walking paths, and barrier-free entrances, they become places where older people can not only engage in physical activity but also maintain and build social networks. Green spaces then function as “social infrastructure”, helping to sustain intergenerational contacts, friendships, and informal community support systems that are essential for ageing well.

The importance of social wellbeing is also evident in studies from India, where rapid urbanization and changing family structures affect the everyday lives of older people. Adlakha, Chandra, Krishna, Smith, and Tully (2021), in their qualitative study from New Delhi and Chennai, found that urban green spaces play a key role in supporting social interaction, group activities, and community bonding among older adults. Participants reported that parks and urban green spaces provide a common meeting point where they can walk, talk, and spend time with peers, which helps them cope with loneliness and life transitions in old age. At the same time, the study also showed that barriers such as poor maintenance, inadequate seating, lack of toilets, and fear of crime restricted regular use of these spaces, especially among low-income and vulnerable groups.

Although many studies primarily focus on physical or psychological outcomes, they indirectly highlight social dimensions as well. Ribeiro et al. (2025), for instance, examined how regular walking in green environments improves physical, cognitive, and functional health among seniors, but group walking and shared use of these spaces also support opportunities for conversation, mutual encouragement, and social bonding.

Similarly, John et al. (2023) showed that neighbourhood tree canopy is associated with healthier ageing; tree-lined streets and shaded sidewalks often become places where older adults can comfortably meet and greet others, thus reinforcing daily social routines.

Taken together, the reviewed literature suggests that green spaces can significantly enhance social wellbeing in later life by serving as accessible and welcoming environments for social interaction. However, the extent of these benefits depends on careful design, regular maintenance, and attention to safety, especially in dense and unequal urban contexts. For a state like Kerala, which is known for strong community networks and rich natural heritage, there is considerable potential to use neighborhood green spaces, temple grounds, church premises, and community-managed gardens as platforms for social engagement of older adults, but empirical research on this specific aspect of social wellbeing remains limited.

2.3 Psychological Wellbeing

Psychological wellbeing in older age encompasses emotional stability, reduced levels of stress, anxiety and depression, and a positive sense of meaning and life satisfaction. The reviewed literature consistently indicates that exposure to green spaces can play a significant role in supporting these psychological outcomes. Natural environments are often described as restorative settings that help people recover from mental fatigue, regulate their emotions, and experience calmness and inner balance. For older adults, who may be dealing with health problems, bereavement, retirement, and changes in social roles, such restorative experiences are particularly valuable.

Beyer et al. (2014) provided empirical evidence from Wisconsin showing that higher levels of neighbourhood green space were associated with significantly lower levels of depression, anxiety, and stress among residents. This association remained robust even after controlling for a range of socio-demographic and health-related factors, suggesting that everyday contact with greenery in the living environment has an independent positive effect on mental health. The study is important because it shows that psychological benefits do not depend only on deliberate visits to parks, but also on the presence of trees, lawns, and other forms of greenery within and around residential areas.

At a broader level, the systematic review and meta-analysis by Twohig-Bennett and Jones (2018) synthesized findings from more than 140 studies to examine how

greenspace exposure relates to health outcomes. They found that people exposed to greenspace had reduced levels of stress, improved biomarkers of health, and a lower risk of several major diseases and mortality. Although this work was not limited to older adults, it reinforces the idea that contact with nature has a strong and wide-ranging impact on psychological and physiological wellbeing. The stress-reducing and mood-enhancing effects of greenspace are thus an important pathway through which nature supports healthy ageing.

Focusing more specifically on the mental health of seniors, Andreucci, Russo, and Olszewska-Guizzo (2019) discussed how well-designed urban green-blue infrastructure, including parks, water bodies, and nature-based therapeutic spaces, can enhance mental health and wellbeing among older adults. Their essay highlights that nature-based interventions can reduce feelings of loneliness, support cognitive functioning, and provide calming sensory experiences, especially for those living with mental health problems or age-related cognitive decline. However, they also note that more empirical research is needed to quantify and evaluate these benefits, particularly in different cultural and climatic contexts.

Studies from India add an important contextual dimension to psychological wellbeing. Adlakha, Murali, Geraint, and Ryan (2020) as well as Adlakha et al. (2021) describe how urban green spaces in cities like Delhi and Chennai help older adults cope with urban stressors such as heat, pollution, noise, and crowding. Participants in their studies reported that visiting parks or walking in greener neighborhoods enabled them to “clear their mind”, feel relaxed, and experience temporary relief from worries related to health, finances, and family responsibilities. Such findings are particularly relevant for ageing populations in Indian cities, where high-density living and climate stress can exacerbate psychological vulnerabilities.

The pilot study by Ribeiro et al. (2025) contributes further evidence by showing that regular walks in green environments not only improved physical strength but also enhanced cognitive functioning and memory among older adults. Improved cognitive performance is closely related to psychological wellbeing, as it supports independence, self-confidence, and a sense of control over one’s life. Steffi and G.S. (2024) add yet another dimension through their work on Geriatric Horticultural Therapy in India, demonstrating that hands-on engagement with plants can reduce emotional distress, foster positive mood, and give older adults a sense of purpose and achievement.

Overall, the reviewed literature suggests that green spaces have a strong potential to support psychological wellbeing by reducing stress, enhancing mood, improving cognitive functioning, and offering spaces for reflection and meaning-making in later life. At the same time, factors such as accessibility, comfort, safety, and cultural preferences shape whether older adults can make regular use of these psychological resources. For Kerala, where nature is deeply intertwined with daily life and spirituality, exploring the psychological value of nearby green spaces and traditional landscapes for older adults could provide important insights for designing context-specific interventions for mental health promotion in old age.

2.4 Physical Wellbeing

Physical wellbeing is a central component of healthy ageing and includes aspects such as mobility, functional capacity, strength, and the absence or reduction of chronic disease risk. The literature indicates that green spaces can promote physical wellbeing by providing supportive environments for physical activity, enabling comfortable movement, and moderating environmental conditions such as heat and pollution. For older adults, who may have age-related limitations, the design and quality of green spaces become particularly important in determining whether they can safely and regularly engage in physical activity.

Ribeiro et al. (2025) conducted a pilot study to analyze the role of green infrastructure in the functional wellbeing of seniors. They found that regular walking in both urban and rural green environments improved physical strength, balance, and overall functional health among older adults. The study shows that even moderate activities such as walking, when carried out in supportive green surroundings, can contribute significantly to maintaining physical capacity and preventing decline in later life. Importantly, the presence of accessible and pleasant green routes motivated participants to maintain regular walking routines, highlighting the motivational role of the environment.

Similarly, John et al. (2023) used longitudinal data from Australia to examine how different types of green space relate to healthy ageing in place among adults aged 45 years and above. Their findings show that higher levels of neighbourhood tree canopy, especially above 30 per cent, were consistently associated with better functional capacity, resilience, and healthy ageing outcomes. In contrast, areas dominated by grass or low-lying vegetation sometimes showed weaker or negative associations. These

results suggest that structural characteristics of green space, such as tree cover that provides shade, cooler microclimates, and visually appealing routes, are especially beneficial for older adults who may be sensitive to heat and sun exposure.

Research from Guangzhou, China, by Chongxian et al. (2020) further illustrates how qualities of residential outdoor environments influence physical and emotional comfort. Their study showed that attributes such as cleanliness, pavement quality, greenery, openness, temperature, and humidity affected the mood and experiences of older adults in different types of neighbourhoods. In high-quality outdoor environments, features like cleanliness and functional design were particularly important, while in poorer environments, the presence of greenery and favourable microclimatic conditions made a notable difference. Although the focus was on mood, these characteristics also shape how willing and able older adults are to move around outside and engage in physical activities.

González and Egea-Jiménez (2021) argued from an environmental gerontology perspective that outdoor green spaces can support active ageing by promoting mobility and autonomy. They stressed that accessible paths, resting places, barrier-free design, and proximity to residences are crucial for enabling older adults to use green spaces for walking, light exercise, and daily errands. When such features are present, green spaces become extensions of the living environment where older adults can safely maintain their physical abilities. In the Indian context, Steffi and G.S. (2024) highlighted that Geriatric Horticultural Therapy offers an additional route to physical engagement, as older adults perform gentle movements, stretching, and coordination activities while caring for plants, which can contribute to improved stamina and flexibility.

Some of the broader reviews, such as that by Twohig-Bennett and Jones (2018), also show that greenspace exposure is associated with better cardiovascular and metabolic health, as well as reduced mortality risk. These physiological outcomes are closely linked to physical wellbeing in old age and suggest that regular contact with nature may help in preventing or managing chronic conditions. However, the distribution and quality of green spaces are not equal across places; poorly maintained, unsafe, or distant parks may discourage older adults from going out, thereby limiting opportunities for physical activity and exposing them to hotter and more polluted environments along busy roads instead.

Overall, the reviewed literature suggests that green spaces can significantly support physical wellbeing in later life when they are designed and managed to suit the needs of older adults. For Kerala, integrating age-friendly features into existing public parks, community grounds, temple and church premises, and neighbourhood commons could help older people to continue walking, exercising, and moving independently, while also experiencing the protective effects of shade and greenery. Yet, research that specifically documents how older adults in Kerala use these spaces for physical wellbeing is still scarce, which justifies further exploration in the present study.

2.5 Overall Wellbeing

While many studies focus on specific dimensions of wellbeing, such as social, psychological, or physical aspects, some adopt a more holistic perspective that recognizes the interconnected nature of these domains in later life. Overall wellbeing in old age can be understood as the combined experience of physical health, emotional balance, social connectedness, autonomy, and a sense of meaning and purpose. The reviewed literature suggests that green spaces have the potential to contribute to this holistic wellbeing by simultaneously supporting multiple domains.

Adlakha, Murali, Geraint, and Ryan (2020) examined neighbourhood support for active ageing in urban India and identified three main themes: neighborhood design, social participation, and transport/mobility. Their study showed that access to parks, safe walking routes, and community spaces not only encouraged physical activity but also promoted social interaction and a sense of safety and comfort, thereby contributing to overall quality of life among older adults. The findings highlight that green spaces cannot be viewed in isolation; instead, they form part of a wider neighbourhood system that supports or hinders active and healthy ageing.

In a later study, Adlakha et al. (2021) focused on the perspectives of older adults in two Indian megacities and found that urban green spaces played a vital role in enabling them to remain active, socially connected, and emotionally resilient. Participants described these spaces as places where they could walk, sit, meet friends, and escape from heat, noise, and pollution. At the same time, the study documented barriers such as poor maintenance, lack of toilets and seating, uneven paths, and safety concerns, particularly in low-income neighborhoods. These findings demonstrate that while green spaces can support overall wellbeing, their actual impact depends on questions of equity, access, and inclusive design.

Andreucci et al. (2019) argued that urban green-blue infrastructure can be intentionally designed to support mental health and elderly wellbeing by integrating natural elements into the urban fabric. They highlighted how such infrastructure can create restorative environments, encourage physical activity, foster social interaction, and provide aesthetic and cultural value, thereby enhancing overall wellbeing. González and Egea-Jiménez (2021) similarly showed that outdoor green spaces contribute to active ageing by enhancing mobility, autonomy, social participation, and emotional wellbeing together, rather than in isolation.

Steffi and G.S. (2024) extended this holistic view by proposing Geriatric Horticultural Therapy as an approach to geriatric wellness in India. Their work suggests that structured horticultural activities can simultaneously improve physical, mental, and emotional health, while also giving older adults a meaningful role and sense of contribution. By engaging multiple senses and capacities, horticultural therapy aligns closely with holistic concepts of wellbeing that go beyond the absence of disease. Broader evidence from systematic reviews such as Twohig-Bennett and Jones (2018) reinforce this perspective by showing that greenspace exposure is associated with a wide array of health benefits, ranging from stress reduction and improved cardiovascular health to lower mortality risk.

Overall, the reviewed literature supports the idea that green spaces can act as comprehensive resources for promoting healthy and active ageing when they are accessible, inclusive, and responsive to the needs of older adults. Nevertheless, there is a clear gap in studies that explore how older adults in Kerala specifically draw on local natural resources, such as homestead gardens, paddy fields, riverbanks, sacred groves, and community-led green initiatives, to support their holistic wellbeing. Most existing research focuses on urban settings in high-income countries or Indian megacities, with limited attention to the unique ecological and cultural context of Kerala. This gap highlights the relevance of the present study, which aims to understand how green environments in Kerala can be mobilized to promote green ageing and enhance overall wellbeing among older adults.

2.6 Theoretical Framework

2.6.1 Continuity Theory (Atchley, 1989)

Continuity theory, proposed by Robert Atchley (1989), explains ageing as a process in which older adults strive to maintain consistency in their internal self-concept and

external patterns of life over time. Rather than seeing old age as a complete break from earlier life stages, the theory suggests that people adapt to age-related changes by preserving familiar roles, relationships, interests, and daily routines, while making gradual adjustments that fit their new capacities and circumstances. This continuity can be expressed internally, through stable values, preferences, and coping styles, and externally, through ongoing engagement in activities and social networks that are similar to those in midlife. Maintaining such patterns provides a sense of identity, predictability, and control, which supports overall wellbeing in later life.

In the present study on green ageing and the wellbeing of older adults, continuity theory is particularly relevant for understanding how seniors use neighbourhood green spaces to sustain familiar ways of living. Long-standing habits such as morning walks, gardening, visiting nearby parks, or meeting friends under trees can be seen as forms of continuity that help older adults deal with retirement, health changes, and shifting family roles. By continuing activities that connect them to nature and community, elderly people preserve their sense of self and life story even as their physical strength or social roles evolve. In the context of Kerala, where many older adults have grown up with close contact with fields, homestead gardens, and village commons, continued use of green environments allows them to carry forward valued cultural and ecological practices into old age. Thus, continuity theory helps to explain why access to age-friendly green spaces can be an important resource for maintaining stability, identity, and holistic wellbeing among older people.

2.6.2 Activity Theory (Havighurst, 1961)

Activity theory, developed by Robert J. Havighurst in 1961, proposes that successful ageing occurs when older adults remain physically, socially, and mentally active. The theory argues that the quality of life in old age is enhanced when individuals continue to engage in meaningful roles, productive activities, and social interactions, rather than withdrawing from society. It emerged as a response to disengagement theory, which viewed withdrawal as natural and inevitable; in contrast, activity theory emphasizes that participation in enjoyable and socially valued activities supports self-esteem, life satisfaction, and psychological and physical health in later life. Maintaining activity is therefore seen as a key pathway to positive ageing.

In the present study, activity theory provides an important lens for understanding how green spaces and nature-based engagements contribute to the wellbeing of older adults.

Parks, neighbourhood walking routes, homestead gardens, community horticulture programs, and other green environments offer accessible opportunities for regular physical movement, social encounters, and mentally stimulating experiences. When older adults walk in the park, participate in group exercises, care for plants, or simply spend time outdoors observing nature, they are enacting the core principles of activity theory. These activities can help them maintain functional capacity, prevent isolation, and sustain a sense of usefulness and enjoyment. In Kerala, culturally familiar green settings, such as temple compounds, church courtyards, and village greens, can act as natural “activity spaces” where older people continue daily routines and social roles in a supportive environment. By linking the availability and design of green spaces to opportunities for meaningful activity, this theory helps explain how environmental features can either promote or restrict active and healthy ageing.

2.6.3 Successful Ageing Theory (Rowe & Kahn, 1997)

Successful ageing theory, articulated by Rowe and Kahn (1997), distinguishes between usual ageing and “successful” ageing based on three main components: low probability of disease and disability, high cognitive and physical functioning, and active engagement with life. Rather than seeing ageing only as decline, Rowe and Kahn argued that many older adults can experience high levels of functioning and life satisfaction when these three conditions are supported. Their model emphasizes that successful ageing is shaped by both individual behaviours (such as lifestyle and coping strategies) and environmental and social factors that enable or constrain healthy choices and participation.

This framework is highly relevant for the present study, which explores how green environments support the wellbeing of older adults. Green spaces can contribute to all three components of successful ageing. First, regular contact with parks, tree-lined streets and gardens encourages physical activity such as walking, which can help prevent or manage chronic diseases and disability. Second, nature-based activities and restorative environments support cognitive functioning and psychological resilience by reducing stress and mental fatigue. Third, accessible and safe green spaces promote active engagement with life by providing venues for social interaction, community participation, and meaningful roles, for example through group walks, gardening, or volunteering in local environmental initiatives. In the Kerala context, successful ageing theory helps frame green ageing not just as absence of illness, but as the positive use of local natural resources to maintain health, function, and social involvement among older

adults. It thus offers a useful overarching lens to connect physical, psychological, social, and overall wellbeing outcomes in this study.

2.6.4 Ecopsychology (Roszak, 1992)

Ecopsychology, popularized by Theodore Roszak in his 1992 book “The Voice of the Earth,” is a field that explores the deep interconnection between human psychological wellbeing and the natural environment. It proposes that modern mental health problems are partly rooted in the separation of people from nature, and that reconnecting with the natural world is essential for emotional balance, meaning, and healing. Ecopsychology views personal and planetary wellbeing as a continuum, suggesting that the health of ecosystems and the health of the human psyche are mutually supportive. It draws on psychology, ecology, philosophy and Indigenous wisdom to argue that experiences of nature—such as being outdoors, tending plants, or engaging with landscapes, can reduce anxiety, foster a sense of belonging, and promote deeper life satisfaction.

In the present study on green ageing, ecopsychology provides a rich interpretive framework for understanding how older adults’ wellbeing is influenced by their relationship with green environments. For many seniors, especially in a region like Kerala with strong ecological and cultural ties to land and water, everyday contact with trees, gardens, fields and rivers is not only pleasant but also deeply meaningful. Ecopsychology helps explain why older people may experience calm, comfort, and a renewed sense of purpose when they walk in natural places, care for plants, or participate in community green initiatives. It also supports the idea that nature-based interventions, such as horticultural therapy or designing age-friendly green spaces, can address psychological distress and loneliness by restoring a felt connection with the more-than-human world. By viewing green spaces as more than physical infrastructure, as environments that nurture identity, memory, and spiritual belonging, ecopsychology enriches the theoretical basis of this study.

2.6.5 Self-Determination Theory (Deci & Ryan, 1985)

Self-Determination Theory (SDT), developed by Deci and Ryan (1985), is a broad theory of human motivation and wellbeing that focuses on the satisfaction of three basic psychological needs: autonomy, competence, and relatedness. According to SDT, people thrive when they feel that they can make meaningful choices (autonomy), are capable and effective in their activities (competence), and are connected and cared for in their relationships (relatedness). When these needs are supported by the social and physical

environment, individuals experience higher motivation, wellbeing, and personal growth. When they are thwarted, people are more likely to experience distress, disengagement, and poorer health.

In the context of the present study, SDT offers a useful framework for understanding how green spaces and nature-based activities can support the basic psychological needs of older adults. Accessible and age-friendly green environments can enhance autonomy by allowing seniors to choose when and how they go out, walk, sit, or engage with nature, rather than being confined indoors. Activities such as walking, gardening, or participating in community green programs can foster competence, as older adults experience themselves as capable of maintaining health,

learning new skills, or contributing to environmental care. Green spaces also provide natural settings for relatedness: meeting friends in the park, talking to neighbors during walks, or sharing plants and produce can strengthen feelings of connection and belonging. In Kerala, where social ties and local ecologies are closely interwoven, supporting these three needs through thoughtful design and use of green spaces can significantly enhance the motivation and wellbeing of older adults. Thus, SDT helps explain how environmental features translate into subjective experiences of choice, capability, and connectedness in later life.

2.6.6 Attention Restoration Theory (Kaplan & Kaplan, 1989)

Kaplan and Kaplan (1989) proposed Attention Restoration Theory (ART), sometimes described in your context as an “alienation–restoration” perspective, to explain how natural environments help people recover from mental fatigue and the sense of overload or alienation produced by urban life. ART suggests that modern tasks demand prolonged directed attention, which is effortful and easily depleted, leading to irritability, reduced concentration, and stress. Natural settings, in contrast, engage “soft fascination” gentle, effortless attention to features like trees, water, and sky, which allows directed attention to rest and replenish. Kaplan and Kaplan identified four key properties of restorative environments: being away (psychological or physical distance from routine demands), extent (a coherent environment that feels immersive), fascination, and compatibility with the person’s purposes.

In the present study, this theory is highly relevant for understanding how green spaces can restore older adults from mental fatigue, stress, and feelings of alienation that may arise from health problems, caregiving burdens, or rapid social change. When seniors

spend time in parks, gardens, temple compounds, or tree-lined neighborhoods, they may experience “being away” from worries, gentle fascination with natural elements, and a sense that these settings fit well with their need for peace, reflection, and light activity. Such experiences can improve concentration, mood, and overall psychological balance, which in turn support social engagement and motivation to be physically active. In Kerala’s context, everyday natural environments, such as paddy fields, riversides, or homestead gardens, can act as restorative spaces that reduce the alienation of older adults from both nature and community, thereby contributing to their holistic wellbeing. ART therefore provides a strong cognitive–environmental explanation for the mental health benefits of green ageing examined in this dissertation.

2.7 Research Gap

Kerala has a rich natural environment, including forests, fields, and many community-led green activities. These natural spaces have great power to support the health and well-being of people, especially older adults. The studies that are available show that spending time in nature and taking part in green activities can improve the well-being of older people. However, there is still very little research on how these natural resources can be used to promote green ageing in rural parts of Kerala. Most studies in the state focus on ageing numbers and health problems, but they rarely look at how nature can help older people stay active and healthy. Even though Kerala is ageing faster than the rest of India, there is

limited research on how simple, community-based green practices can reduce loneliness, stress, and social isolation among older adults. This gap shows the need for more studies that look closely at how green ageing activities affect the well-being of older people in Kerala.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

According to C R Kothari (2004) defines “*research methodology as the systematic way of solving a research problem, explaining the logic behind the methods researchers use to collect, analyze, and interpret data.*” Research methodology is the overall plan that explains how and why a study is carried out, not just the tools used. It outlines the research design, methods, samples, and procedures for collecting and analyzing data, and clarifies why these choices are appropriate for the research problem and objectives. While methods describe what was done, methodology explains the why and how behind those decisions, ensuring that the study is systematic, valid, reliable, ethical, and open to scrutiny or replication by others.

The present study aims to understand how far the green activities become helpful in maintaining overall wellbeing of older adults in Kerala, especially like Kottayam, Idukki, Kannur and Trivandrum.

This chapter defines the basic aspects like research approach, research design, themes, inclusion and exclusion criteria setting, population, samples, sampling technique, development and description of instruments, reliability and validity of the tools, ethical consideration, pilot study, data collection procedure, plan for data analysis and the limitation of the study.

Therefore, this chapter outlines the overall approach of the study, describing how the research will be conducted so that the results are trustworthy, accurate, and dependable.

3.2 Theoretical and Operational Definitions of Concepts

1. Ecological Engagement

Theoretical Definition

The concept of ecological engagement refers to an individual's active interaction with and participation in natural environments through activities that foster a meaningful relationship with nature. According to Gregory N. Bratman et al. (2019), ecological engagement encompasses regular interaction with natural environments that promotes both environmental stewardship and human well-being. Similarly, Stephen Kaplan and Rachel Kaplan (1989) explain that active engagement with nature through activities

such as gardening, cultivation, and outdoor interaction enhances restoration, psychological functioning, and environmental connectedness. Ecological engagement is therefore understood as a dynamic relationship between individuals and their surrounding natural environment that supports healthy ageing and overall well-being

Operational Definition

In the present study, ecological engagement refers to the regular and meaningful involvement of older adults in nature-based activities such as farming, home gardening, vegetable cultivation, caring for fruit trees and flowering plants, composting, watering crops, maintaining agricultural land, and other everyday interactions with the natural environment. The study explores how these ecological practices become integrated into participants' daily lives and contribute to their physical, psychological, and social well-being.

2. Physical Health

Theoretical Definition

The World Health Organization (1948) defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." Physical health refers to the proper functioning of the body, enabling individuals to maintain mobility, strength, endurance, and independence while performing activities of daily living. Healthy ageing further emphasizes maintaining functional ability that enables well-being in later life (WHO, 2020).

Operational Definition

For the purpose of this study, physical health refers to the perceived physical well-being of older adults as experienced through ecological engagement. It includes their ability to perform agricultural and household activities independently, maintain mobility and stamina, experience improved sleep and appetite, manage chronic illnesses effectively, reduce bodily discomfort, and sustain functional independence in everyday life.

3. Daily Routine

Theoretical Definition

According to John W. Rowe and Robert L. Kahn (1997), maintaining regular and meaningful daily activities is a fundamental characteristic of successful ageing because structured routines promote active engagement, independence, and life satisfaction.

Daily routine refers to the regular pattern of activities that organizes an individual's everyday life and provides stability, purpose, and continuity.

Operational Definition

In this study, daily routine refers to the organized pattern of daily activities performed by older adults, including waking habits, household responsibilities, ecological activities, caregiving, social interaction, prayer, leisure, and rest. Particular emphasis is placed on how ecological engagement forms an integral part of their everyday routine and contributes to maintaining an active, meaningful, and disciplined lifestyle.

4. Psychological Benefits

Theoretical Definition

According to Stephen Kaplan and Rachel Kaplan (1989), interaction with natural environments promotes psychological restoration by reducing mental fatigue, enhancing attention, and improving emotional well-being. Likewise, Roger S. Ulrich (1984) explains that exposure to nature facilitates stress recovery, emotional regulation, and positive psychological responses.

Operational Definition

In the present study, psychological benefits refer to the positive emotional and mental outcomes perceived by older adults through ecological engagement. These include feelings of peace, happiness, emotional satisfaction, stress reduction, relief from loneliness, enhanced resilience, improved coping with ageing-related challenges, a stronger sense of purpose, and overall psychological well-being.

3.3 Research Questions

General Question

How do green activities contribute to the physical, psychological and social wellbeing of older adults in Kerala?

Specific Questions

1. How did older adults become involved in green activities?
2. How do green activities in older adults support their physical health and daily routine?
3. In what ways do older adults describe psychological or emotional benefits they experience from nature-based activities?

4. How do green activities influence the social wellbeing of older adults?

3.4 Research Design

The present study adopted a qualitative phenomenological research design. Phenomenology seeks to understand the lived experiences and meanings individuals attach to a particular phenomenon. Since the present study aims to explore the experiences of older adults engaged in ecological activities and understand how these activities influence their physical, psychological and social wellbeing, the phenomenological design was considered most appropriate. It enabled the participants to describe their experiences in their own words and facilitated an in-depth understanding of the phenomenon.

3.5 Inclusion Criteria

- Older adults who are above the age of 60.
- Participants are selected only from rural areas of Kerala.
- Included older adults who are engaging in ecological activities including animal husbandry.

3.6 Exclusion Criteria

- Those who have severe mental and physical illness.
- Those who have less than 5 years of ecological engagements.

3.7 Sources of Data

Primary and secondary data were collected using appropriate methods and techniques. Primary sources include first-hand information from the participants. Secondary sources include dissertations, journal articles and documents.

3.8 Pilot Study

A pilot study was conducted in order to check the feasibility of the study. Pilot study was conducted among 02 older adults who are above the age of 60 from Kottayam district.

3.9 Area of Study

Older adults who are engaged in ecological activities in rural areas of Kerala is taken for the phenomenological study. The four districts in Kerala (Kottayam, Idukki, Kannur and Thiruvananthapuram) constitute the area of the study.

3.10 Research Approach

According to John W. Creswell and Cheryl N. Poth (2018), a qualitative approach is a method of inquiry used to explore and understand the meaning that individuals or groups ascribe to a social or human problem. It emphasizes participants lived experiences, perceptions, and interpretations within their natural settings, allowing the researcher to gain an in-depth understanding of complex phenomena through methods such as interviews, observations, and document analysis. Unlike quantitative research, which seeks to measure variables and test hypotheses, qualitative research aims to uncover the richness, depth, and contextual nature of human experiences.

The uniqueness of the qualitative approach lies in its ability to capture participants' voices, emotions, meanings, and subjective realities that cannot be adequately explained through numerical data alone. This approach is particularly relevant to the present study because it seeks to explore how older adults experience ecological engagement and how they perceive its influence on their physical, psychological, and social well-being. Since the study focuses on understanding lived experiences rather than measuring predetermined variables, the qualitative approach provides the most appropriate framework for generating rich, context-specific, and meaningful insights into the phenomenon under investigation.

3.11 Sampling

Qualitative approach is adopted in this study. Thus, Purposive Sampling method is being used in selection of participants for the study. Purposive sampling is suitable because the study needs older adults who actively engage in green activities and can share their rich experiences.

3.12 Methods and Techniques

Data were collected through semi-structured in-depth interviews using an interview guide prepared by the researcher. Each interview lasted approximately 45–60 minutes and was conducted at a place convenient to the participants. Interviews were conducted

in Malayalam, audio-recorded with participants' consent, and later transcribed into English for analysis. One interview with a participant from Kannur was conducted telephonically due to geographical constraints.

3.13 Data Analysis

The collected data were analysed using Braun and Clarke's (2006) thematic analysis. The audio recordings were transcribed verbatim and read repeatedly to gain familiarity with the data. Initial codes were generated from meaningful statements. Similar codes were grouped to develop categories and broader themes. The themes were reviewed, refined and interpreted in relation to the objectives of the study and the theoretical framework. Relevant verbatim quotations were included to support the findings.

3.14 Ethical Considerations

Ethical principles were maintained throughout the study. Prior permission was obtained before data collection. Participants were informed about the objectives and purpose of the study. Informed consent was obtained prior to the interviews. Participation was voluntary, and participants had the right to withdraw at any stage without any consequences. Confidentiality and anonymity were ensured by using pseudonyms and removing identifying information. The collected data were used solely for academic purposes and stored securely.

3.15 Limitations of the Study

The study has certain limitations. Since the study adopted a qualitative phenomenological design with a small purposively selected sample, the findings cannot be generalized to the wider population. The study was conducted among older adults from selected districts of Kerala; therefore, regional variations may not be represented. Time limitations restricted prolonged engagement with participants. The findings are based on participants' subjective experiences and depend upon their willingness to share information.

CHAPTER 4

NARRATIVE CASE DESCRIPTIONS

4.1 Introduction

This chapter presents the narratives of the participants, capturing their lived experiences of ecological engagement and its influence on their overall well-being. In line with the phenomenological approach adopted in this study, the focus is on understanding how older adults themselves perceive, interpret, and assign meaning to their engagement with nature-based activities such as farming and gardening. Rather than reducing their experiences into predefined categories, this chapter seeks to retain the richness and depth of participants' voices by presenting their accounts in their own words.

The data presented in this chapter are drawn from in-depth interviews conducted with nine elderly participants selected through purposive sampling from four districts of Kerala. An interview guide was used to facilitate the conversations, allowing flexibility for participants to share their experiences freely while ensuring that the core areas related to ecological engagement and well-being were adequately explored. The participants come from diverse socio-economic and cultural backgrounds, which adds to the depth and variation in the narratives.

In qualitative research, particularly within a phenomenological framework, verbatim accounts play a crucial role in preserving authenticity and ensuring that the analysis remains grounded in participants' lived realities. Therefore, this chapter does not attempt to interpret or analyze the data in detail; instead, it provides a descriptive presentation of participants' experiences. The narratives presented here form the foundation for the thematic analysis undertaken in the subsequent chapter, where patterns, meanings, and theoretical connections are explored in depth.

4.2 Participants' Description

4.2.1 Participant 1

Participant 01 was a 62-year-old woman from Thekkemury, Ayyappankoil, Marykulam, belonging to a traditional agrarian family where agriculture remained the primary source of livelihood. She lived with her husband and extended family in their ancestral home. Her family reflected diverse educational and occupational backgrounds. Her eldest daughter was working as a nurse in London after marriage, her second son lived with the family while his wife worked as a schoolteacher, her third son was pursuing priestly

formation in a seminary, and her youngest son was studying engineering at NIT Calicut. During the interview, she recalled that she had been married for thirty-six years and had initially lived in Aaladi near Upputhara before relocating to Marykulam because of the difficulties associated with poor accessibility and transportation. She described this relocation as a turning point that significantly improved the family's living conditions. Throughout the conversation, she presented herself as someone whose identity had always been closely associated with agriculture and domestic life. According to the participant, farming was never a separate occupation but a way of life inherited from previous generations. She remarked, *"From my childhood onwards I grew up seeing and hearing about farming. Ours is a traditionally farming family."* This lifelong exposure had made ecological engagement an inseparable part of her everyday life and continued to shape her activities even in later adulthood.

The participant explained that her daily life followed a disciplined routine centered on household responsibilities and ecological engagement. She usually woke up around 4.30 a.m. and began the day with prayer before attending to cooking and helping her granddaughter prepare for school. Once the household work was completed, she devoted her attention to farming activities. Every morning she visited the vegetable garden to water the plants, inspect them carefully, and remove pests whenever necessary. Similar activities continued during the evening, and before going to bed she again checked the crops to ensure that insects or worms had not damaged them. These practices were not occasional tasks but had become habitual over many years. She explained that she rarely missed her daily visit to the farm except during periods of heavy rainfall. Although she personally supervised most cultivation activities, she acknowledged the support received from her husband, mother-in-law, and grandson. The participant shared that one of the major reasons for continuing cultivation was the desire to provide healthy, pesticide-free food for the family. As she explained, *"The desire for pesticide-free food, and the fact that we can obtain many of our household food items directly from our own home, encourages me to continue farming."* She also noted that voluntary organizations such as INFAM and VOSARD had motivated her to remain actively involved in agriculture by promoting ecological farming practices and encouraging cultivators within the community.

While discussing her experiences, the participant described ecological engagement as a source of physical strength, emotional well-being, and social connectedness. Although she acknowledged that ageing had brought certain physical changes, she did not

perceive farming as an exhausting activity. Instead, she felt that regular involvement in cultivation helped maintain her energy and reduced feelings of fatigue. She explained, *"I rarely experience tiredness. Even when I do feel tired, once I start engaging in nature-based activities, I can keep working without giving much importance to that fatigue."* According to her, remaining physically active throughout the day improved her appetite, promoted better sleep, and prevented a sedentary lifestyle. She further reflected that ecological engagement positively influenced her mental well-being by keeping her meaningfully occupied and reducing unnecessary thoughts. In her words, *"These nature-related activities help me maintain my mental happiness."* The satisfaction of watching crops grow and harvesting the produce brought her immense joy and inner peace. She also emphasized that farming strengthened relationships within the community because agricultural activities were often carried out collectively. Describing this shared experience, she stated, *"All our farming is done through mutual cooperation."* According to her, such cooperation nurtured trust, mutual support, affection, and stronger social relationships among neighbors and fellow cultivators. She also maintained good relationships with local agricultural officers and regularly benefited from government subsidies provided through the Panchayat for crops such as banana and tapioca.

Towards the latter part of the interview, the participant reflected on several challenges that had affected agricultural life over the years. She expressed concern about unpredictable climatic conditions, explaining that irregular rainfall and changing weather patterns had increasingly resulted in crop losses and uncertainty. Another major difficulty was the shortage of sincere agricultural laborers and the rising cost of wages, which made farming more demanding. Living in a high-range area, she also experienced frequent crop damage caused by wild animals. However, the issue that concerned her most was the declining interest of younger generations in agriculture. She expressed this concern emotionally, stating, *"The declining interest of the younger generation in agriculture pains us a lot."* She also highlighted the problem of low market prices and competition from imported agricultural products, which reduced the economic value of local farming. Nevertheless, despite these challenges, she remained optimistic about agriculture and continued to view ecological engagement as an integral part of her life. She believed that farming contributed not only to household food security and supplementary income but also to physical health, mental peace, harmonious family relationships, and social well-being. Overall, her narrative portrayed a life deeply rooted

in ecological engagement, where agriculture represented far more than an occupation. It was a lifelong practice that shaped her daily routine, strengthened family and community relationships, sustained her well-being, and provided enduring meaning and satisfaction in later life.

4.2.2 Participant 2

Participant 02 was an older woman residing near Kanjikuzhi in Idukki district. Originally from Kunnonni near Poonjar, she was the youngest among ten siblings and grew up in a large agrarian Catholic family where farming formed an integral part of everyday life. She got married in 1980 to a family in Vellikula near Vagamon and entered a household consisting of twelve members. At the time of the interview, she was living with her husband, while all three of her children—two sons and a daughter—were married and settled in the same locality. She was also the grandmother of six grandchildren. Agriculture continued to be the primary source of livelihood for the family and remained deeply embedded in her identity and daily life. Reflecting on her background, she explained that farming was never considered a separate occupation but rather a way of life passed down through generations. As she expressed, *“Since I am a member of an ancient Catholic family, agriculture has traditionally been part of our life. Since there are many people in the household, farming was also a form of recreation for all of us.”* Her narrative reflected a lifelong familiarity with ecological activities that had naturally continued into older adulthood without interruption.

The participant described her daily routine as highly structured and centered around both family responsibilities and ecological engagement. She began each day very early with prayer before attending to household chores, preparing coffee, and helping her daughter-in-law who left for work in the morning. After serving refreshments to the household and agricultural workers, she devoted herself to goat rearing and vegetable cultivation. Every morning she cleaned the goat shed, provided feed and water to the animals, and then moved to the vegetable garden where she cultivated every available space around her home. She carefully inspected the crops for pests and diseases, provided necessary support to the plants, and carried out routine maintenance activities such as staking and tying creepers. Although she managed most of the work herself, she explained that her children assisted with larger tasks such as constructing trellises, while her grandchildren regularly helped with watering the plants in the evenings. After completing the morning agricultural work, she returned to household duties, prepared lunch, and later spent time with family members after her daughter-in-law returned from work. Evenings were

again devoted to caring for the goats before she travelled to her husband's ancestral home to care for her elderly mother-in-law throughout the night, returning to her own home the following morning. Reflecting on this responsibility, she explained that caring for her mother-in-law had become part of her everyday life after the accidental death of her husband's younger brother's wife nearly ten years earlier. Although she acknowledged that advancing age and health concerns had reduced her physical capacity compared to earlier years, she continued to remain actively engaged in farming and caregiving while adapting her work according to her strength and changing circumstances.

Throughout the interview, the participant spoke positively about the influence of ecological engagement on her physical, psychological, and social well-being. She believed that regular farming activities kept her physically active and prevented inactivity in later life. According to her, *"Farming helps to keep the body healthy. It also helps me stay active and not become lazy... Because of that, it helps with appetite and getting good sleep."* Rather than viewing cultivation as physically demanding, she experienced it as an activity that sustained movement and encouraged healthy daily living. She also reflected on the emotional benefits of farming, particularly the resilience it had cultivated over the years. Crop failures and unexpected losses were accepted as part of agricultural life, yet she believed these experiences strengthened her ability to recover from setbacks. As she explained, *"Farming helps me learn resilience. Because sometimes when the things we plant get destroyed, farming helps me to farm again and to overcome that failure."* Towards the end of the interview, she further summarized her experience by stating, *"As far as I am concerned, farming helps me most in maintaining mental happiness."* The participant also described farming as an activity that naturally strengthened social relationships within the community. She frequently shared surplus vegetables and fruits with neighbors, while neighbors reciprocated by sharing their own produce and agricultural knowledge. Recalling these experiences, she explained that agricultural life encouraged mutual support, observing, *"We give away the surplus produce from our home to those who ask, and similarly they give to us."* Such everyday exchanges, according to her, fostered close neighbourhood relationships and strengthened a sense of collective living.

Towards the conclusion of the interview, the participant reflected on the growing challenges confronting agriculture. Among these, she regarded climate change as the most serious concern affecting traditional farming. She explained that irregular rainfall,

excessive heat, frost, and unpredictable weather patterns had significantly reduced agricultural productivity and made cultivation increasingly uncertain. In addition, she highlighted problems such as poor market prices, rising costs of livestock feed, cattle diseases, shortages of agricultural laborers, and the frequent destruction of crops by wild animals including wild boars, porcupines, and squirrels. These challenges, she believed, discouraged many people from continuing agriculture. She also expressed concern over the declining interest of younger generations in farming, observing that very few young people were willing to continue traditional agricultural practices. Despite these difficulties, she remained convinced that farming continued to provide emotional satisfaction and purpose in later life. When asked whether older adults needed to be encouraged to engage in agriculture, she smiled and remarked, *“I don't think there is any need to attract the elderly into farming, because for older people, farming is already part of their life, isn't it?”* Overall, the participant's narrative portrayed a later life characterized by continuity, responsibility, and meaningful ecological engagement. Farming remained deeply woven into her family life, daily routine, caregiving responsibilities, and social relationships, providing not only physical activity but also emotional resilience, mental contentment, and a continuing sense of purpose in older adulthood.

4.2.3 Participant 3

Participant 03 was a 62-year-old woman residing in Kakkathodu, Upputhara, in Idukki district. Originally from Kannimala near Mundakkayam, she spent her childhood in a rural environment where agriculture was woven into the fabric of everyday family life rather than being viewed as a separate occupation. After completing her schooling in Kannimala, she married nearly thirty years ago and moved to Upputhara, where she has continued to live with her husband. Her three children had gradually entered independent stages of life; her eldest daughter was married and settled in Vaikom, her second daughter was employed in Ernakulam, and her youngest son was pursuing higher studies in London. Although her children no longer lived at home, she did not perceive this phase of life as one of loneliness or inactivity. Instead, she continued to lead a disciplined and purposeful life centered on prayer, household responsibilities, and farming. Reflecting on the origins of her agricultural life, she explained that farming had never been a conscious career choice but a way of living inherited from childhood. She fondly recalled, *“We are traditional farmers. I learned the basics of farming by walking alongside my father.”* This lifelong exposure to cultivation had shaped her

identity, and even in later adulthood she continued to regard agriculture as a natural extension of her daily life.

The participant described a highly structured daily routine that revolved around both spiritual practices and ecological engagement. She woke up every morning at four o'clock, began the day with prayer, attended church, and then completed her household responsibilities before leaving for the farmland around nine in the morning. She remained engaged in agricultural work until midday, returned home to prepare lunch and take a short rest, and later resumed farming activities during the afternoon until evening prayer and dinner. While narrating this routine, she spoke with a sense of normalcy, explaining that this pattern had remained largely unchanged over the years. She remarked that, except on Sundays, *“every day of the year proceeds in the same way.”* Although advancing age and health concerns had reduced the intensity of her work compared to earlier years, she continued to remain actively involved in cultivation. She recalled that ten to fifteen years earlier the family simultaneously managed cattle, goats, and extensive farming activities, making life physically demanding yet deeply meaningful. As circumstances changed, she adapted her workload without distancing herself from agriculture. One of the strongest motivations for continuing cultivation was her commitment to providing healthy food for the family. As she explained, *“The desire to get poison-free food motivates me to plant vegetables.”* For her, growing vegetables was not merely a household activity but an expression of self-reliance and a commitment to healthy living.

While reflecting on her experiences of ageing, the participant acknowledged that health challenges had become part of her life, particularly after suffering from chikungunya, which left her with persistent body pain. However, rather than allowing these physical limitations to restrict her activities, she believed that farming enabled her to remain active and reduced her awareness of discomfort. She shared, *“When we pay more attention to farming, we do not notice this pain,”* and further added that *“it gives a lot of physical strength.”* According to her, agricultural work did not eliminate illness but helped sustain movement, strength, and functional ability despite the presence of pain. Beyond physical benefits, farming also occupied an important place in her emotional life. She explained that engaging with the land helped her overcome daily worries and maintain inner balance. In her words, *“Mentally speaking, farming helps me to forget difficulties and move on.”* The participant also viewed agriculture as a deeply social activity that fostered cooperation and mutual dependence within the community. She

explained that farmers and laborers relied on one another throughout the cultivation process, creating opportunities for continuous interaction, trust, and shared responsibility. As she reflected, *“Farming helps socially because we need workers and workers also need us.”* According to her, agriculture naturally strengthened relationships by encouraging cooperation, unity, sharing, and mutual support among people involved in farming.

Towards the end of the interview, the participant reflected on the broader changes affecting agriculture and rural life. She observed that traditional agricultural knowledge continued to be transmitted mainly through families and lived experience rather than through formal institutions. Although she occasionally benefited from agricultural collectives, she believed that practical farming experience was often more valuable than complicated administrative procedures. She expressed concern over the gradual environmental changes she had witnessed over the years, recalling that forest areas near her home had significantly diminished. She observed, *“When the trees in the forest were cut down, we experienced a significant reduction in rainfall,”* linking deforestation with declining rainfall and changing climatic conditions. Alongside these environmental concerns, she highlighted the growing shortage of agricultural laborers, declining crop prices, reduced soil fertility caused by excessive chemical inputs, and the decreasing interest of younger generations in farming. She expressed particular concern that, *“The entry of the younger generation into agriculture is very low. Because of that, nothing new is coming into agriculture,”* noting that traditional crops such as turmeric and ginger were gradually disappearing from local cultivation. Despite these challenges, she remained committed to agriculture and believed that its greatest contribution was not financial gain but the vitality and fulfilment it brought to everyday life. She also suggested that ensuring fair prices for agricultural produce would support genuine farmers more effectively than merely increasing subsidies. Overall, her narrative reflected a life shaped by continuity, resilience, and a deep attachment to farming. Ecological engagement remained an enduring part of her identity, sustaining her daily routine, physical activity, emotional well-being, social relationships, and connection with the natural environment despite the changing realities of ageing and rural life.

4.2.4 Participant 4

Participant 04 was a 68-year-old man residing in Arakkulam, Moolamattom, in Idukki district. Originally from Changanassery, he had migrated to Moolamattom several years earlier in connection with his employment and gradually made it his permanent home.

Professionally, he served at St. Joseph's College, Moolamattom, where he began his career as a peon and eventually retired as the Head of Accounts. Even after his official retirement, his dedication to the institution continued, and he voluntarily assisted the college for another twelve years by handling government documentation, administrative procedures, and land-related matters. At the time of the interview, he was living with his wife, a retired teacher, and their two daughters. While his younger daughter had completed her postgraduate education and was employed, his elder daughter was living with physical and intellectual challenges that required continuous care and support. The participant explained that much of his present life revolved around caring for his daughter while balancing household responsibilities, farming, and community service. Reflecting on the changes in his life after retirement, he described how ecological engagement gradually assumed a central place in his daily routine. Although his involvement in farming intensified after retirement, he explained that his interest had its roots in childhood. Growing up in Changanassery, he had observed agricultural practices from an early age and had developed a quiet familiarity with cultivation. However, employment and family responsibilities had prevented him from engaging fully until later in life. As he recalled, *"When I was young and living in Changanassery, I grew up seeing and learning about farming. But it was only after leaving my job that I fully engaged in it on my own."* This lifelong connection with agriculture eventually became a meaningful part of his post-retirement life.

The participant described his present routine as disciplined, purposeful, and centred on ecological engagement. His day began early with prayer, which he regarded as the spiritual foundation of his everyday life. After completing his morning prayers, he devoted time to farming by watering vegetables, caring for fruit trees, inspecting crops, and maintaining the land around his house before attending to other household responsibilities. Alongside these activities, caregiving remained an important part of his daily schedule. Since his elder daughter required assistance with most aspects of everyday life, he ensured that he remained close to home and readily available whenever needed. Despite these responsibilities, he did not describe either caregiving or farming as burdens. Instead, both were accepted as meaningful aspects of his life. During the daytime, he also participated in community service and local public activities whenever opportunities arose, while the evenings were once again devoted to agricultural work before concluding the day with family and prayer. Reflecting on the transition from employment to retirement, he explained that leaving his long-held profession had

initially created anxiety. After spending decades surrounded by files, accounts, and administrative responsibilities, he feared that retirement might leave a significant void in his life. This concern motivated him to continue serving the college unofficially for another twelve years. However, when he eventually stepped away completely, he found that farming and public service helped him adapt to this new phase of life. As he explained, *“At first, I was afraid that suddenly losing my job would create a big void. That is why I continued there for another twelve years. But when I fully retired, turning to farming and public service made that transition easier.”* Looking back on this transformation, he reflected, *“When I was working at the college, life was amidst files and accounts. Now most of my time is in the soil and in nature.”* These reflections illustrated how retirement became an opportunity for renewed engagement rather than withdrawal from meaningful activity.

The participant regarded farming as an important contributor to his physical, emotional, and social well-being. He explained that regular agricultural work kept him physically active and functioned as a natural form of exercise integrated into his everyday routine. Describing its impact on his health, he stated, *“Working in the soil in the morning is good exercise. I get good appetite and sleep,”* and further added, *“Even at this age, farming helps me stay active without major illnesses.”* Although he openly acknowledged living with severe knee pain and age-related wear and tear that required regular medication, he explained that ecological engagement changed the way he experienced these physical limitations. In his words, *“I have severe knee pain and wear-and-tear, and I take medicine, but when I am farming, I do not give much importance to it.”* Beyond its physical benefits, farming occupied a significant emotional space in his life. The participant spoke with particular concern about the ongoing responsibility of caring for his elder daughter, acknowledging that her condition remained a constant source of worry. Yet he found that working in the soil provided emotional relief and helped him cope with these anxieties. He reflected, *“It is great peace for the mind,”* adding that *“especially, working in the soil helps to reduce anxieties about my daughter’s health condition.”* The joy of cultivating plants and witnessing their growth also brought him deep personal satisfaction, leading him to remark, *“I get great satisfaction in life from this. Farming is a joy.”* Agriculture further strengthened his relationships within the community, as he regularly shared vegetables harvested from his garden with neighbours. He explained, *“I give the vegetables produced through farming to neighbors, and that helps to improve relationships,”* suggesting that

ecological engagement naturally promoted generosity, goodwill, and stronger social connections.

Towards the end of the interview, the participant reflected on the practical challenges associated with farming. While he accepted minor fatigue as a normal part of ageing, he viewed changing environmental conditions as a greater concern. Water scarcity during the summer months and excessive rainfall during the monsoon often disrupted cultivation and required constant adaptation. Despite these challenges, he remained optimistic about the value of ecological engagement and believed that farming should not be limited to those who depended on it for their livelihood. Instead, he encouraged everyone, particularly older adults, to cultivate even a small piece of land according to their capacity. As he expressed, *“Instead of sitting at home getting bored, one should start farming even in a small way. It will give us new life both physically and mentally.”* Throughout the interview, his narrative reflected a life shaped by resilience, responsibility, and purposeful engagement. Retirement had not diminished his sense of usefulness; rather, it enabled him to rediscover fulfilment through agriculture, caregiving, and community participation. For him, farming represented much more than the cultivation of crops. It had become a meaningful way of maintaining physical activity, finding emotional peace, strengthening social relationships, and experiencing purpose and satisfaction in later life.

4.2.5 Participant 5

Participant 05 was an 82-year-old man residing in Ambattu, Kodinattukunnu, Changanassery. His life reflected a remarkable journey of resilience, perseverance, and adaptation that began with profound personal loss during early childhood. Born in 1943, he lost his mother when he was barely one and a half years old, and his father passed away shortly thereafter. As an orphan at a very young age, he was brought up under the care of a priest who was a distant relative from his father's family. Recalling his childhood, he described growing up within religious institutions and educational settings that provided him with protection, discipline, and opportunities for education. He spent part of his childhood in Kottayam under the care of priests associated with Deepika Press and later lived for nearly thirteen years in a boarding institution at Mookkannoor. After returning to his paternal aunt's home, he continued his education and gradually rebuilt his life. Although he failed the tenth standard examination on his first attempt, he completed it successfully the following year and moved forward with determination. After a brief period of employment in a bank, he joined S.B. College in 1966, an

opportunity he regarded as a major turning point that brought stability and direction to his life. He eventually married, built a home, and raised four children, all of whom established successful careers in different parts of the world. Reflecting on these achievements, he remarked with quiet satisfaction, *“My greatest pride is that, as far as I was able, I educated my children and enabled them to get jobs.”* Rather than emphasizing their professional accomplishments alone, he regarded their education and independence as the most meaningful fulfilment of his lifelong responsibilities.

Even in his eighties, the participant continued to maintain a disciplined and active daily routine centred on ecological engagement. His mornings usually began around six o'clock with a cup of black coffee followed by a light breakfast before he proceeded to his farmland. Although he acknowledged that advancing age no longer permitted him to undertake physically demanding work, he continued to participate in cultivation according to his strength and capacity. He remained in the fields until late morning, returned home for lunch and a short period of rest, and later resumed farming activities during the evening with the assistance of workers whenever necessary. His day concluded with bathing, prayer, reading, and adequate rest. While comparing this routine with his earlier working life, he recalled that his years of employment at S.B. College were governed by strict schedules and institutional responsibilities, leaving limited time for personal interests. Retirement, however, brought a gradual shift in how he organized his time and allowed him to devote greater attention to agriculture, an interest that had quietly remained with him since childhood. He reflected, *“After retirement, I got more time, and then I began to give more attention to farming.”* He further explained that although he remained actively involved in church-related responsibilities after retirement, farming gradually became one of the most meaningful aspects of his everyday life. Speaking about the roots of this interest, he recalled, *“My grandfather was a farmer. I think that interest might be what attracted me to farming.”* Inspired by those early memories, he cultivated nearly one and a half acres of land surrounding his house, maintaining more than two hundred banana plants along with various vegetables. Despite his wife's health limitations following multiple surgeries, she continued to assist him according to her ability, making farming a shared family activity.

Throughout the interview, the participant consistently described farming as a source of physical vitality, emotional fulfilment, and social connectedness. He believed that regular ecological engagement enabled him to remain physically active despite his

advanced age and regarded agricultural work as an important contributor to healthy ageing. Speaking with conviction, he stated, *“I am clearly aware that farming is good for health,”* adding that farming helped him preserve bodily energy and maintain an active lifestyle. Rather than viewing cultivation as physically exhausting, he considered it an activity that strengthened the body and encouraged continued movement. Emotional well-being emerged as another important aspect of his experience. Although he acknowledged that farming generated some financial returns, he repeatedly emphasized that the greatest rewards were psychological rather than economic. Observing crops grow and harvesting the produce brought him immense satisfaction, leading him to reflect, *“Mental happiness is a major factor. When I see the produce coming, it gives a joy to the mind that is greater than money.”* This sense of fulfilment remained one of the strongest reasons for continuing cultivation in later life. The participant also described farming as an activity that naturally expanded his social interactions. Regular contact with agricultural labourers, MGNREGA workers, and people who visited to purchase agricultural products created opportunities for meaningful relationships and everyday communication. As he explained, *“I have ongoing relationships with all of them.”* These interactions formed an important part of his social life and reinforced his sense of belonging within the local community.

Towards the conclusion of the interview, the participant reflected on several challenges confronting contemporary agriculture. Among these, unpredictable climatic conditions emerged as his greatest concern. Drawing from personal experience, he explained that delays in harvesting banana crops often resulted in significant financial losses, observing that *“if plantains are not harvested by December or January, the water in the plant dries up and the plant breaks and falls, causing heavy financial loss.”* Beyond the economic consequences, he believed that repeated crop failures created emotional distress among cultivators who depended primarily on farming for their livelihood. He also expressed concern over the declining participation of younger generations in agriculture, referring to them as the *“computer generation”* and worrying that agriculture would increasingly rely on migrant labor if this trend continued. Despite these concerns, he remained convinced that ecological engagement offered benefits extending far beyond financial returns. Summarizing his philosophy of life, he remarked, *“Mental happiness is the most important thing. You can make money, but mental happiness is not something you can get by paying money.”* He further believed that remaining active through meaningful work contributes to healthier and more

satisfying ageing, not only for older adults but for individuals across all stages of life. Overall, the participant's narrative portrayed a life shaped by resilience, determination, family commitment, and purposeful engagement. Despite experiencing early bereavement, demanding life transitions, and the challenges of advanced age, he continued to find meaning and fulfilment through farming. For him, ecological engagement represented far more than cultivation; it was a way of sustaining physical activity, emotional well-being, social relationships, and a continuing sense of purpose in later life.

4.2.6 Participant 6

Participant 06 was a 70-year-old man residing in Pulickal, Chunda, Koluvally in Kannur district. Originally from Thodanal near Kanjiramattom in Kottayam district, his life had been shaped by migration, military service, family responsibilities, and a continued attachment to agriculture. Following his marriage, he migrated with his family to Malabar, where he gradually established his home and livelihood. Professionally, he served in the Indian Army, primarily in the communication wing, and regarded his years of military service as one of the most meaningful phases of his life. During the interview, he spoke with pride about serving the nation, describing it as an important source of personal identity and fulfilment. He was the father of six children—two sons and four daughters—and at the time of the interview he was living with his youngest son, while his other children had settled elsewhere according to their occupations and family circumstances. Although his life had undergone several transitions, he described his present environment as peaceful and free from unnecessary distractions, allowing him to enjoy a slower and more balanced rhythm of living. His account suggested that retirement had not diminished his sense of purpose but had instead provided opportunities to remain actively engaged through family life, farming, and animal care.

The participant described his daily routine as disciplined and orderly, reflecting habits cultivated during his years in military service. He explained that waking up early had become part of his nature and continued even after retirement. His mornings usually began with caring for the household cow, after which he personally delivered the milk to the local dairy society before attending Holy Mass at the parish church. Returning home, he enjoyed a cup of coffee, read the newspaper, and then attended to his cattle and cultivation activities around the house. After completing the morning's work, he rested for a while, had lunch, and took a short afternoon break before spending the evening with his grandchildren, whom he regarded as a great source of joy. Dinner was

usually taken early, and he preferred retiring to bed by around seven o'clock in the evening. Reflecting on the changes that retirement had brought, he contrasted his present routine with the demanding and highly structured nature of army life. He remarked, *"Army life was very disciplined and busy. Now life is very calm."* While acknowledging that heart-related illness had reduced his ability to undertake physically strenuous work, he explained that he had adapted his activities according to his present health without withdrawing from an active lifestyle. Speaking about his connection with agriculture, he recalled, *"We were traditionally farmers, but it was only after my job that I mainly turned to farming."* For him, retirement provided the opportunity to rediscover farming as a meaningful and enjoyable part of everyday life rather than merely an occupation.

Agriculture occupied an important place in the participant's present life and was carried out with the active support of his family, particularly his youngest son. He cultivated rubber, arecanut, coconut, and several other crops on family land, while also caring for livestock as part of his daily responsibilities. Throughout the interview, he described farming as an activity that promoted physical movement and supported healthy ageing. Rather than considering agricultural work to be burdensome, he believed it functioned as a natural form of exercise that helped maintain bodily fitness. As he explained, *"Engaging in farming is a kind of exercise."* Although his heart condition required him to be cautious, he continued to value regular physical activity and believed it contributed positively to his overall health. The participant also highlighted the emotional benefits of ecological engagement, explaining that working in nature helped him maintain mental well-being despite existing health concerns. Reflecting on this experience, he stated, *"As I told you, I have heart-related illness. Because of that, the happiness I feel while farming helps to maintain my mental well-being."* In addition to farming, spending time with his grandchildren brought him immense satisfaction and contributed to his emotional contentment. He further described agriculture as a socially connecting activity that strengthened relationships with neighbours. Through the exchange of seeds, saplings, farming knowledge, and practical support, informal bonds developed naturally within the community. As he observed, *"There is an informal fellowship between me and my neighbors. We share seeds and saplings with each other. We talk about farming activities and help each other."* These interactions, though informal, formed an important part of his everyday social life and reinforced his sense of belonging within the rural community.

Towards the conclusion of the interview, the participant reflected on the challenges affecting contemporary agriculture and rural living. He expressed concern over changing climatic conditions, explaining that irregular rainfall, prolonged periods of heat, and unseasonal weather had made farming increasingly uncertain. He also observed that rubber cultivation and coconut farming were being adversely affected by changing environmental conditions and increasing pest attacks. Alongside these ecological concerns, he highlighted rising production costs and declining market prices as significant economic pressures faced by cultivators. Despite these difficulties, he remained convinced that ecological engagement offered benefits extending far beyond agricultural production. Summarizing his experience, he reflected, *“At this age, living in tune with nature is a great comfort.”* He further explained, *“When doing animal care and farming, you get a sense of vitality. Fresh air and the sights of nature give peace to the mind.”* These reflections encapsulated his overall outlook on later life. For him, farming and animal care represented more than routine activities; they were meaningful practices that sustained physical movement, emotional peace, family relationships, and a continuing connection with the natural environment. Overall, the participant's narrative portrayed later life as a period of active adaptation rather than withdrawal, where ecological engagement provided continuity, purpose, and a renewed appreciation for the simple rhythms of everyday living.

4.2.7 Participant 7

Participant 07 was a 65-year-old woman residing in Vellayambalam, Thiruvananthapuram, originally from Kayamkulam. She identified herself primarily as a homemaker whose life had long revolved around family responsibilities, household management, and spiritual practices. At the time of the interview, she was living with her daughter and grandchildren. Her daughter was employed as an Assistant Executive Engineer in the Kerala Water Authority, while her son was working in the IT sector in Ernakulam. She was blessed with four grandchildren who occupied an important place in her present life. A major turning point in her later years was the loss of her husband in 2023, an experience that had significantly altered her daily life and emotional world. Although she had migrated from her native village many years ago and gradually adapted to urban living, her attachment to nature and the agricultural practices of her childhood continued to influence her present lifestyle. Throughout the interview, she reflected calmly on how these early experiences had remained deeply rooted in her life and continued to shape her relationship with gardening and ecological activities.

The participant described her daily routine as simple, disciplined, and centred around prayer, family care, and small ecological practices. She usually woke up between four and four-thirty in the morning, explaining that early rising had been a lifelong habit rather than a recent adjustment. The first hours of the day were devoted to personal prayer and spiritual reflection, after which she assisted her daughter in preparing meals and getting the grandchildren ready for school. Once the household became quieter, she again spent time in prayer before attending to routine domestic responsibilities. Since waking early often left her feeling tired, she occasionally rested during the late morning. Her afternoons were largely devoted to caring for her grandchildren after they returned from school, while the evenings were reserved for gardening and tending to the plants around her home before concluding the day with dinner and family time. Reflecting on changes brought about by ageing, she acknowledged that she was no longer as physically active as she had once been. Earlier in life she had regularly practiced yoga and maintained a stricter daily routine, often waking as early as three o'clock in the morning. Advancing age and physical limitations had gradually reduced the intensity of these activities, prompting her to become more attentive to her health and diet. She also remembered that previous stages of family life had allowed greater involvement in vegetable cultivation, whereas her current gardening activities were more modest in scale.

The participant explained that her connection with ecological activities began in childhood rather than in old age. Growing up in Kayamkulam, agriculture had been an ordinary part of family life rather than a separate occupation. Paddy cultivation formed the center of agricultural activity, and after the paddy season, vegetables such as spinach and beans were cultivated around the fields. She actively participated in these activities alongside other family members and believed that these experiences laid the foundation for her lifelong interest in nature. Reflecting on these memories, she remarked, *"I believe that is how an interest in these activities took shape in me."* Although her present circumstances did not permit extensive farming, she continued to maintain a close relationship with nature through flower gardening and the cultivation of small household plants such as curry leaves, Chinese potato, and spinach. She independently watered plants, pruned branches, applied manure, and cared for the garden without depending on assistance from others. Gardening had become a personal space within her daily routine, providing both activity and satisfaction. When discussing its influence on physical well-being, she did not exaggerate its benefits but explained that it encouraged

movement and reduced physical discomfort. As she reflected, *“Physically, it helps me maintain the desire to keep working,”* adding that gardening kept her body active and helped relieve certain aches and pains. More significantly, the participant spoke about the emotional value of gardening following the death of her husband. She openly acknowledged that loneliness had become a major part of her later life and quietly observed, *“The loneliness I experience is greater than what I can share with others. We cannot tell everything to everyone.”* Within this context, gardening became an important source of comfort and emotional stability. She explained, *“Gardening helps a lot to remove that loneliness,”* and further shared that through caring for plants she was able to divert her mind from distressing thoughts, experience inner calm, and find moments of quiet happiness. According to her, *“Through it, I am able to avoid unnecessary thoughts, calm my mind to some extent, and experience a pleasant joy.”* Her reflections suggested that gardening had become an essential part of her everyday coping process rather than merely a leisure activity.

The participant also reflected on the social and environmental dimensions of ecological engagement. Looking back on life in her native village, she remembered agriculture as an activity that naturally strengthened relationships within the community. Vegetables, paddy, and other produce were freely shared among relatives and neighbours, and families often extended help to those who lacked sufficient food. These practices, she felt, fostered mutual care and social solidarity. In contrast, she observed that urban gardening did not generate the same level of interaction, as cultivation was now largely confined to household use. She noted that even when she offered produce to neighbours, they sometimes declined because they had little need for it. The participant also expressed concern about changes affecting contemporary agriculture. She recalled that traditional farming methods relied on locally available materials such as tobacco decoction and ash for pest control, whereas modern cultivation had become increasingly dependent on chemical pesticides. In her view, environmental conditions had also changed considerably, making cultivation more difficult than in earlier years. Towards the end of the interview, she reflected that the greatest benefit she derived from gardening was not productivity or financial gain but *“mental happiness.”* Overall, her narrative portrayed later life as a period of adaptation, where gardening continued to provide purpose, routine, emotional comfort, and a lasting connection with the agricultural traditions of her childhood. Despite the changes brought by ageing,

bereavement, and urban living, ecological engagement remained an enduring source of peace and continuity in her everyday life.

4.2.8 Participant 8

Participant 08 was a 62-year-old woman residing in Anickadu in Kottayam district. Originally from Kannimala near Mundakkayam, she was the eldest among seven children and grew up in a family where agriculture was inseparable from everyday life. After completing her schooling at St. Joseph's High School, Kannimala, she married in 1989 and moved to Anickadu, where she established her family life. At the time of the interview, she was living with her husband, while her children had entered different phases of life. Her son had embraced religious life as a priest, and her daughter was living in Bangalore with her family. Although the household had become much smaller over the years, she remained actively engaged in managing the home and continuing agricultural activities. Throughout the interview, she described her life as one rooted in discipline, responsibility, and a strong attachment to farming, which had been passed on through generations. Agriculture was not presented as a separate occupation but as a way of life that continued to shape her everyday experiences despite changes brought about by ageing and family circumstances.

The participant explained that her day usually began around 4:30 in the morning with personal prayer, which she regarded as the foundation of her daily routine. After prayer, she attended to household responsibilities, prepared morning coffee, and cared for the animals maintained at home. Animal husbandry and farming were naturally woven into her daily schedule, and during seasons when nutmeg was harvested, much of her morning was devoted to collecting and processing the produce. Although the household responsibilities had become somewhat lighter after her children left home, she observed that the reduction in family size had not necessarily reduced the amount of work. Instead, fewer people were available to share responsibilities. After completing domestic work, she spent time caring for vegetables, watering plants, maintaining the yard, and attending to livestock, including cows, goats, and ducks. During the afternoons, she occasionally rested for a short while before returning to cultivation and other pending household work. Phone conversations with her children remained an important part of her day, and evenings were centred on prayer before retiring for the night. Reflecting on the changes that had taken place over the years, she observed, *“Earlier there was more work, but there were people at home to do it. Now there is still a lot of work, but there is a shortage of people to do it or help.”* While acknowledging

that ageing and health problems had reduced her physical capacity, she explained that she simply adjusted her work according to her strength rather than withdrawing from activity altogether.

When discussing her connection with agriculture, the participant immediately linked it to her childhood and family background. Farming had been the foundation of her upbringing, and she regarded it as a natural continuation of the values and practices she had learned from her parents. Reflecting on those experiences, she shared, *“My father and mother lived by farming. We were raised through agriculture. That has greatly encouraged me also to turn to farming.”* Although farming was no longer carried out on the same scale as in earlier years, she continued cultivating vegetables and maintaining trees around the house with the aim of meeting household needs as far as possible. Alongside crop cultivation, caring for livestock remained an essential part of her routine. During the interview, she openly discussed her health, explaining that she was living with hypertension, diabetes, and certain bone-related problems. Nevertheless, she believed that farming helped her cope with these physical challenges. She remarked, *“Doing activities related to agriculture helps me to cope to some extent with my physical difficulties,”* and further explained, *“I have blood pressure, diabetes, and some bone-related problems, but when I am engaged in farming, I cannot keep remembering or complaining about the pain.”* According to her, agricultural work kept her physically alert and diverted her attention from bodily discomfort. Beyond physical benefits, she emphasized the emotional comfort that ecological engagement provided. She reflected, *“Just going out into nature itself is a pleasant experience for the mind,”* and explained that farming helped reduce feelings of loneliness and restlessness, especially now that only she and her husband remained at home. For her, agriculture was not simply a productive activity but an important source of mental peace and meaningful engagement in everyday life.

Towards the latter part of the interview, the participant reflected on the wider social and environmental realities affecting agriculture. She explained that farming naturally strengthened relationships with neighbours and members of the local community through everyday interaction and mutual support, even though she herself was not actively involved in formal agricultural organizations. At the same time, she expressed concern about the challenges confronting contemporary farming. Climate variability, changing weather conditions, and their effects on crop production were matters of growing concern. However, she considered the shortage of people willing to engage in

farming to be an even greater challenge. She observed, *“The biggest obstacle when entering into current farming practices is the lack of people,”* explaining that modern households lacked the family members who once shared agricultural responsibilities. She also expressed disappointment over the declining interest of younger generations in farming, stating that *“especially among children, their inclination towards agriculture is very low.”* Towards the conclusion of the interview, she summarized her experience by highlighting the multidimensional value of ecological engagement. She reflected, *“There are benefits both physically and mentally. If we keep thinking about pain, then we will not be able to do anything,”* and added that *“the mental happiness we get is very great.”* Overall, the participant's narrative portrayed later life as a period of continued activity, resilience, and adaptation. Despite health limitations, reduced family support, and changing agricultural conditions, she remained deeply connected to farming and animal care, viewing ecological engagement as an enduring source of physical movement, emotional well-being, and continuity with the values that had shaped her life from childhood.

4.2.9 Participant 9

Participant 09 was a 64-year-old man residing in Thidanadu in Kottayam district. Originally from Pala, he was the fifth among seven children and grew up in a family where agriculture was not merely a means of livelihood but an inseparable part of everyday life. He completed his degree in Science and later obtained a B.Ed., which opened the opportunity to pursue a teaching career. However, he explained that his deep attachment to farming influenced a different decision, and instead of entering the teaching profession, he chose to dedicate his life to agriculture. He had been residing in Thidanadu for nearly two decades after previously living in Chennad and Aruvithura. Married in 1993, he and his wife were blessed with four children. His eldest son was pursuing priesthood, his second child was studying for an MD in Medicine, another child was working as an engineer, and the youngest was still pursuing school education. While he expressed gratitude for his family's achievements, it became evident throughout the interview that agriculture remained the central identity through which he understood his life and purpose. Farming was not simply an occupation for him but a lifelong vocation that had shaped his values, aspirations, and everyday existence.

The participant described his daily life as highly disciplined and purposeful. He usually woke up at four o'clock every morning and began his day with prayer, Bible reading, and participation in Holy Mass. Spiritual practices formed the foundation of his daily

routine before he entered the fields. Depending on the day's work, he either engaged in rubber tapping or attended to various farming activities around his home. He cultivated ginger, plantains, vegetables, and several other crops on the twenty-five cents of land surrounding his house, making full use of every available space. Reflecting on his approach to farming, he remarked, *"I try to ensure that there is greenery everywhere."* His statement reflected not merely a preference for cultivation but a deep desire to live in harmony with nature. Unlike many older adults who viewed retirement as a significant life transition, he explained that his routine had changed very little over the years because farming had remained the center of his life throughout adulthood. However, he observed that agriculture itself had undergone tremendous transformation. Looking back at his childhood, he remembered landscapes dominated by fertile paddy fields, traditional farming methods, and close relationships with the land. With a sense of concern, he reflected, *"The conditions, farming practices, and soil that existed in my childhood are not what we have now after these 64 years."* He also lamented the increasing dependence on chemical inputs, observing that *"now everything is full of chemicals,"* and recalled how cultivation in earlier years depended largely on bullocks rather than machinery. Despite these changes, he remained firmly committed to farming and expressed no desire to withdraw from active work. He stated confidently, *"I have not yet retired, and I have not even thought about it. As long as God gives me health, I will continue to be active in the agricultural sector."*

When discussing the origins of his agricultural journey, the participant traced it back to his childhood experiences alongside his parents. He explained that during school vacations he regularly accompanied them to the fields and gradually learned farming through observation and participation. Remembering those years, he shared, *"From childhood onwards I used to help with farming at home. During my school days, in the holidays, I would go with my father and mother to the fields and work there,"* before adding, *"I believe that is the most fundamental aspect of my life."* These experiences laid the foundation for a lifelong commitment to cultivation. At present, he remained actively engaged in farming every day, carrying out rubber tapping and cultivating ginger, vegetables, and other crops around his house. In addition to his own farm, he leased land jointly with friends to cultivate coconut, plantain, tapioca, and colocasia, describing these activities as an everyday part of his life. Although he was living with diabetes and required regular medication, he explained that farming enabled him to remain physically active and prevented his health from deteriorating. As he remarked,

"I am a diabetic patient, but I do not have any major health problems," adding that *"farming helps me to prevent these health problems from becoming worse."* Beyond physical health, he spoke passionately about the emotional meaning of farming. He expressed disappointment that society often failed to recognize the dignity of agricultural work, observing, *"At present, those who work in agriculture are in a situation where they are not valued."* Nevertheless, he firmly rejected the perception that farming represented failure and proudly stated, *"I say that agriculture is my main source of income."* For him, agriculture brought rewards that extended far beyond financial returns. He reflected, *"Through agriculture I find peace, happiness, and satisfaction,"* suggesting that farming was a source of identity, emotional fulfilment, and personal dignity.

Towards the latter part of the interview, the participant emphasized the importance of collective farming and community participation. Over the past several years, he had become actively involved in group farming initiatives with friends and was a member of the Jyothi Farmers' Group. He explained that the group was preparing to establish a local outlet named *Nattinte Kalavara* to market agricultural products directly, thereby strengthening local farming and creating better opportunities for cultivators. While he appreciated the spirit of cooperation within his village, he also spoke candidly about the structural challenges confronting agriculture today. According to him, low prices for agricultural produce had become one of the greatest obstacles for farmers. He observed, *"Unlike in the past, today it is not possible to live depending solely on agriculture,"* highlighting the economic pressures faced by those who remained committed to cultivation. Despite these realities, he continued to approach farming with optimism and conviction. Towards the conclusion of the interview, he summarized the significance of ecological engagement in his life by stating, *"I am a person who loves farming, so I experience a reduction in physical ailments through it, and most importantly I get great mental happiness."* He further added, *"When we farm together, it also gives us the experience of community."* Overall, the participant's narrative portrayed a life characterized by unwavering commitment to agriculture, deep ecological values, and purposeful engagement. Even amidst changing environmental conditions and declining social recognition for farming, he continued to view agriculture as a source of health, identity, emotional fulfilment, and community belonging. His experiences reflected not only continuity across different stages of life but also a profound conviction that farming remained a meaningful and dignified way of living into older adulthood.

CHAPTER 5

ANALYSIS AND INTERPRETATION

5.1 Introduction

This chapter presents a systematic analysis and interpretation of the qualitative data collected from elderly participants engaged in ecological activities. The primary objective of this study is to explore how nature-based engagement contributes to the overall well-being of older adults, encompassing physical, psychological, and social dimensions. Using a thematic analysis approach, the narratives of the participants were carefully coded, categorized, and interpreted to identify recurring patterns, meanings, and experiences emerging from their lived realities.

The analysis is grounded in key theoretical frameworks such as Activity Theory, Continuity Theory, Eco-psychology, and Successful Ageing, which provide a conceptual lens to understand the relationship between ageing and ecological engagement. These frameworks help explain how sustained involvement in meaningful activities, particularly those connected to nature, supports active ageing, identity continuity, and emotional resilience.

The chapter is organized into major themes and subthemes derived from the participants' verbatim responses. Each theme is elaborated with detailed interpretations and supported by direct quotations to preserve the richness of the data. By integrating empirical findings with theoretical perspectives, this chapter aims to offer a comprehensive understanding of the role of ecological activities in enhancing the well-being and quality of life among the elderly.

5.2 Socio-Demographic Profile and its Interpretation

The socio-demographic profile of the participants reflects a predominantly rural, agrarian, and family-oriented background, which significantly shapes their engagement with ecological activities. The participants, aged between 62 and 82 years, largely belong to traditional farming families, where agriculture is not only an occupation but a way of life. As one participant, Case 1, noted, *"Ours is a traditionally farming family... from childhood onwards I grew up seeing and hearing about farming."* This highlights the intergenerational transmission of agricultural knowledge and values.

Most participants are married and live within extended or semi-extended family systems, often with children or grandchildren. For instance, case 2 shared, “*I have three children... all are married and live nearby... I have six grandchildren,*” indicating strong familial networks that provide both emotional and practical support. However, there are also instances of partial isolation, especially among those whose children have migrated, as reflected by Case 3: “*Now at home there is only my husband and me.*”

Sl. No	Name	Age	Gender	Place	Marital Status	Family Structure	Education / Background	Previous Occupation	Current Occupation	Main Source of Income	Health Status
1	Case 1	62	Female	Marykulam, Idukki	Married	Joint/Extended	Traditional farming background	Homemaker/Farmer	Farmer	Agriculture	Age-related decline
2	Case 2	65	Female	Chelachuvadu, Idukki	Married	Joint	Not specified (traditional)	Homemaker/Farmer	Farmer (incl. goat rearing)	Agriculture	Mild health issues
3	Case 3	62	Female	Upputhara, Idukki	Married	Nuclear	School education	Farmer	Farmer	Agriculture	Chikungunya-related pain
4	Case 4	68	Male	Arakkulam, Idukki	Married	Nuclear	Educated	College Office Staff (HA)	Retired + Farming	Pension + Agriculture	Knee pain
5	Case 5	82	Male	Changanassery, Kottayam	Married	Extended	Up to 10th standard	College Clerk	Retired + Farming	Pension + Agriculture	Age-related limitations
6	Case 6	70	Male	Kannur (Kolluvally)	Married	Nuclear	Not specified	Army (Communication Wing)	Retired + Farming	Pension + Agriculture	Heart-related illness
7	Case 7	65	Female	Trivandrum	Widow	Extended (with daughter)	Not specified	Homemaker	Gardening	Family support	Age-related issues
8	Case 8	62	Female	Anickadu, Kottayam	Married	Nuclear	School education	Homemaker/Farmer	Farmer + Animal care	Agriculture	Diabetes, BP, bone issues
9	Case 9	64	Male	Thidnadu, Kottayam	Married	Nuclear	B.Sc., B.Ed.	Farmer	Full-time Farmer	Agriculture	Diabetes

Table No. 1 Showing profile of the participants

Educational levels vary, but the majority have basic schooling, with life experiences rooted more in practice than formal training. Occupationally, while some participants had prior formal employment (e.g., Case 4, a retired accounts head), many have been lifelong farmers. Health conditions such as diabetes, hypertension, and joint pain are commonly reported; yet, participants continue to remain active. Case 8 remarked, “*I have blood pressure and diabetes... but when I am engaged in farming, I do not feel the pain.*”

Overall, the socio-demographic characteristics indicate that ecological engagement is deeply intertwined with participants’ cultural background, family structure, and lived experiences, reinforcing its role in sustaining well-being in later life.

RESEARCH QUESTION 1: HOW DID OLDER ADULTS BECOME INVOLVED IN GREEN ACTIVITIES?

Under this research question there are two major themes

1. Deeply Embedded Nature of Agriculture as a Life-Course Identity
2. Integration of Nature-Based Activities into Daily Routine and Disciplined Life

5.3 THEME 1: DEEPLY EMBEDDED NATURE OF AGRICULTURE AS A LIFE-COURSE IDENTITY

Identity is shaped through the continuous interaction between individuals, their family, culture, community, and lived experiences across the life course. Activities that are repeatedly practiced and socially valued from childhood often become integrated into an individual's identity, influencing values, behaviors, and ways of life throughout different stages of development. In rural communities, agriculture represents more than a means of livelihood; it constitutes a cultural tradition, a way of living, and an important medium through which knowledge, skills, and values are transmitted across generations. Such experiences contribute to the formation of a life-course identity that remains closely connected to the natural environment and continues to influence individuals well into later adulthood.

From a life-course perspective, early experiences with agriculture often establish enduring patterns of engagement that extend beyond economic necessity. Family traditions, childhood participation in farming activities, and continuous interaction with the natural environment create a sense of belonging and attachment that persists throughout life. Even when individuals experience significant life transitions such as

education, employment, migration, or retirement, these early experiences continue to shape their personal identity and relationship with agriculture. As a result, ecological engagement in later life is often experienced not as a new activity but as the continuation of a long-standing way of life that provides meaning, continuity, and purpose.

Within the context of the present study, this theme explores how agriculture has become deeply embedded in the life-course experiences and identities of older adults. It examines how childhood socialization, family traditions, and lifelong ecological engagement have contributed to the formation of agricultural identity and how this identity continues to influence their experiences, values, and well-being in later life. The various dimensions of this life-course identity are presented through the following sub-themes.

SUBTHEMES

5.3.1. Structurally Embedded in Socio-Cultural Upbringing

One of the strongest patterns emerging from the narratives was that agriculture had been deeply embedded within participants' socio-cultural upbringing. Nearly every participant traced the origins of ecological engagement to childhood experiences within farming families where cultivation formed an ordinary part of everyday life. Rather than describing farming as a conscious career decision, participants portrayed it as a natural extension of family life, inherited through observation, participation, and continuous interaction with parents and older family members.

“From my childhood onwards, I grew up seeing and hearing about farming. Ours is a traditionally farming family.” (Case 1). “Since I am a member of an ancient Catholic family, agriculture has traditionally been part of our life.” (Case 2). “We are traditional farmers. I learned the basics of farming by walking alongside my father.” (Case 3). “My father and mother lived by farming. We were raised through agriculture. That has greatly encouraged me also to turn to farming.” (Case 8). “From childhood onwards I used to help with farming at home. During school holidays I would go with my father and mother to the fields and work there.” (Case 9).

Although the participants belonged to different districts of Kerala and had experienced different life trajectories, these narratives consistently demonstrate that ecological engagement was socially learned rather than individually acquired. Agricultural knowledge was transmitted informally through everyday family interactions instead of formal education. Parents, grandparents, and other family members served as the

primary agents of socialization, allowing participants to acquire farming skills through observation, imitation, and active participation. Consequently, agriculture became integrated into their worldview long before adulthood and continued to influence their behavior throughout later life. These narratives suggest that participants do not experience farming simply as agricultural labor but as a lived reality embedded within their personal histories. Their memories of childhood are inseparable from memories of soil, crops, family cooperation, and seasonal rhythms. These early experiences continue to shape how participants interpret ecological engagement in old age, giving it meanings associated with belonging, familiarity, continuity, and identity.

The findings resonate strongly with Pierre Bourdieu's (1977) concept of habitus, which explains how dispositions and everyday practices are internalized through prolonged socialization within families and communities. Agriculture, in the present study, appears as an embodied cultural practice rather than merely an occupational activity. The findings also support Atchley's (1989) Continuity Theory, which proposes that older adults tend to preserve earlier patterns of behavior, values, and identities across the life course. Participants' continued involvement in farming demonstrates how ecological engagement functions as a continuation of lifelong roles rather than the adoption of new activities during old age. Furthermore, the findings align with the Life Course Perspective (Elder, 1994), which emphasizes that early-life experiences significantly influence later-life behavior, identity, and adaptation.

Discussion:

This subtheme reflects how agricultural engagement is deeply rooted in the participants' socio-cultural environment, particularly through family structures, community norms, and early socialization processes. The data suggest that participants were not formally "introduced" to farming; rather, they were immersed in it as a way of life from childhood. This indicates that ecological practices are embedded within a broader cultural framework that shapes values such as hard work, self-reliance, and respect for nature.

The interpretation here points to the role of socialization and habits (Bourdieu, 1977), where repeated exposure to farming practices over time creates durable dispositions that guide behavior even in later life. As a result, engagement in agriculture becomes almost instinctive, requiring little external motivation. This embeddedness enhances well-being

by providing a sense of normalcy and rootedness, especially in the face of changing social and economic conditions.

In terms of well-being, such socio-cultural grounding fosters emotional security and identity coherence. Individuals derive comfort from engaging in familiar practices that are validated by their cultural context. Moreover, the shared nature of these practices within families and communities strengthens collective identity and belongingness, which are essential components of social well-being.

Theoretically, this can also be linked to Eco-psychology, which emphasizes the inherent connection between humans and their natural environment. When ecological engagement is culturally embedded, this connection becomes even stronger, leading to a more harmonious relationship between the individual and nature. This harmony contributes to reduced psychological distress and enhanced life satisfaction.

For social work practice, this implies that interventions aimed at promoting well-being among the elderly should be culturally sensitive and context-specific, building upon existing ecological practices rather than imposing external models. Recognizing the socio-cultural roots of such engagement can lead to more sustainable and meaningful outcomes.

5.3.2. Agriculture Re-Emerges in Later Life as a Return to Roots

The participants' narratives revealed that later life provided an opportunity to reconnect more actively with agriculture after years of occupational, familial, and social responsibilities. Although farming had always been part of their lives, many participants explained that their direct involvement had reduced during their working years due to employment commitments and family obligations. Retirement, increased availability of time, and changing life circumstances enabled them to return to cultivation with renewed interest and commitment. Rather than perceiving agriculture as a new activity adopted in old age, they viewed it as a continuation of a lifelong relationship with nature that had remained deeply embedded in their identity.

"After retirement, I got more time, and then I began to give more attention to farming." (Case 5). "After retirement, I got more time, and then I gradually became more involved in church-related responsibilities and agricultural work." (Case 4). "We were traditionally farmers, but it was only after my job that I mainly turned to farming." (Case 6). "When I was young, I grew up seeing and learning about farming. But it was only after leaving my job that I fully engaged in it on my own." (Case 4).

These experiences indicate that retirement and other later-life transitions were not perceived by the participants as periods of withdrawal from active life. Instead, they were regarded as opportunities to reconnect with agricultural practices that had been part of their lives since childhood but had received comparatively less attention during their years of employment and family responsibilities. The participants explained that professional commitments, caregiving responsibilities, and the demands of raising children had often limited the time they could devote to farming. As these responsibilities gradually reduced, they found themselves returning to cultivation with greater involvement and enthusiasm. This renewed engagement was not described as adopting a new hobby or leisure activity but as resuming a familiar way of life that had always remained meaningful to them. The participants expressed a sense of satisfaction in being able to spend more time in the fields, care for crops, and remain connected with nature on a daily basis. Their narratives also suggest that returning to agriculture provided structure and purpose to their everyday lives while enabling them to continue contributing to their households and communities. Thus, later life became a stage in which participants were able to revive long-standing agricultural practices, reaffirm their connection with the natural environment, and continue living in accordance with the values and traditions that had shaped them throughout their lives.

Discussion

This subtheme highlights the phenomenon of re-engagement with agriculture in later life, particularly after retirement or the completion of primary occupational roles. The participants' narratives suggest that farming often re-emerges as a preferred activity when formal work responsibilities diminish, indicating a deliberate return to earlier life patterns. This return can be interpreted as a form of identity restoration, where individuals seek to reconnect with meaningful aspects of their past.

From an interpretative standpoint, this reflects the process of adaptive coping in ageing, where individuals actively reconstruct their daily lives to maintain purpose and engagement. Instead of experiencing retirement as a loss, participants transform it into an opportunity to reinvest in personally meaningful activities. This aligns with Activity Theory (Havighurst, 1961), which argues that continued engagement in activities leads to greater life satisfaction in old age.

The link to well-being is particularly significant here. Re-engaging in agriculture provides a sense of purpose, productivity, and autonomy, all of which are critical for

psychological well-being. It also mitigates feelings of emptiness or redundancy that often accompany retirement. By returning to farming, individuals are able to redefine their roles, shifting from formal employment to self-directed ecological engagement.

Additionally, this return to roots fosters emotional fulfillment and nostalgia-based well-being, where positive memories associated with earlier life experiences enhance current life satisfaction. It also allows individuals to reconnect with nature, which has been shown to have therapeutic effects, including stress reduction and improved mood.

From a theoretical perspective, this subtheme represents an intersection of Continuity Theory and Successful Ageing (Rowe & Kahn, 1997). While continuity ensures stability, successful ageing emphasizes active engagement and adaptation. Together, they explain how returning to agriculture can serve as both a continuation and a transformation, enabling individuals to age in a healthy and meaningful way.

For social work, this underscores the importance of facilitating opportunities for older adults to reconnect with their past skills and interests, particularly those that are ecologically grounded. Such approaches not only enhance individual well-being but also contribute to sustainable community practices.

5.3.3 Agriculture as a Core Identity beyond Economic Utility

The participants' narratives revealed that agriculture was perceived as much more than a means of earning an income or meeting household needs. Although farming contributed to their livelihood to varying degrees, they consistently described it as an integral part of who they were. Agriculture was closely associated with their personal identity, values, family heritage, and way of life. Even in situations where farming was not economically profitable or when alternative occupations were available, participants continued their engagement because it provided them with a sense of purpose, belonging, and fulfilment. Their continued involvement reflected a deep emotional and personal attachment to agriculture that extended beyond its material benefits.

"Farming had never been a separate decision or career choice. From my childhood onwards, I grew up seeing and hearing about farming. Ours is a traditionally farming family." (Case 1). "Agriculture is my main source of income. I do not say that I am unemployed; I proudly say that I am a farmer." (Case 9). "Mental happiness is a major factor. When I see the produce coming, it gives a joy to the mind that is greater than money." (Case 5). "I am a person who loves farming, so through agriculture I find peace, happiness, and satisfaction." (Case 9). "Instead of sitting at home getting bored,

one should start farming even in a small way. It will give us new life both physically and mentally.” (Case 4).

The participants' accounts illustrate that the significance of agriculture extended well beyond its economic value. Farming was viewed as a meaningful way of living that reflected their personal beliefs, family traditions, and lifelong experiences. Their narratives indicate that continued ecological engagement in later life was sustained not merely by financial necessity but by a strong sense of identity and emotional attachment to agriculture. Even when confronted with economic uncertainty, changing agricultural conditions, or advancing age, they remained committed to farming because it continued to provide meaning, satisfaction, and a sense of self. For these older adults, agriculture represented an enduring life orientation that shaped how they understood themselves and their place within their families, communities, and the natural environment.

Discussion

This subtheme brings out a crucial analytical insight: for the participants, agriculture transcends its conventional understanding as an economic activity and instead functions as a core existential identity. The narratives clearly indicate that farming is not pursued primarily for income generation but for personal satisfaction, moral fulfillment, and a sense of purpose. Participants often continue agricultural activities despite low financial returns, physical strain, or structural challenges, suggesting that their engagement is driven by intrinsic rather than instrumental motivations.

Interpretatively, this reflects a shift from a productivist understanding of labor to a meaning-oriented engagement, where the value of the activity lies in its experiential and symbolic significance. Agriculture becomes a medium through which individuals express autonomy, competence, and continuity of self. This is particularly significant in later life, where opportunities for formal economic participation decline. By engaging in farming, participants resist being positioned as “dependent” or “inactive,” instead asserting their identity as active contributors within their household and community.

In terms of well-being, this non-economic orientation plays a vital role in enhancing psychological and existential well-being. The participants derive joy, satisfaction, and dignity from the act of cultivation itself, whether it is nurturing plants, producing food for the family, or simply being engaged in meaningful work. This aligns with the concept of eudaimonic well-being, which emphasizes purpose, self-realization, and meaningful engagement rather than mere pleasure or material gain (Ryan & Deci, 2001). The act of

farming thus becomes a source of inner fulfillment, contributing to a deeper sense of life satisfaction.

Theoretically, this subtheme can be strongly linked to Self-Determination Theory (Deci & Ryan, 1985), which posits that well-being is enhanced when individuals experience autonomy, competence, and relatedness. Agriculture, as described by the participants, fulfills all three needs: it allows them to work independently (autonomy), apply and sustain lifelong skills (competence), and remain connected to family and community (relatedness). Furthermore, this also complements Continuity Theory, as the continuation of farming reflects the preservation of valued roles that define the individual's identity beyond economic productivity.

From a broader perspective, these findings challenge dominant policy and societal narratives that evaluate agriculture solely in terms of profitability. It highlights the need to recognize farming as a holistic life practice that contributes to the well-being of older adults in multiple dimensions. For social work practice, this underscores the importance of promoting meaning-centered interventions, where the focus is not only on economic support but also on sustaining activities that provide dignity, identity, and purpose in later life.

5.4 THEME 2: INTEGRATION OF NATURE-BASED ACTIVITIES INTO DAILY ROUTINE AND DISCIPLINED LIFE

Daily routines play a fundamental role in promoting health, stability, and well-being during later life by providing structure, continuity, and a sense of purpose in everyday living. As individuals transition into older adulthood, changes such as retirement, reduced occupational responsibilities, and evolving family roles often alter the organization of daily life. Maintaining meaningful routines becomes increasingly important, as structured activities help foster independence, encourage active participation, and contribute to physical, psychological, and social well-being. A disciplined daily routine not only promotes productive use of time but also supports emotional balance, functional ability, and overall quality of life.

Nature-based activities provide an important context through which such structured routines can be developed and sustained. Activities such as farming, gardening, and animal care are closely linked with the natural environment and often follow regular patterns influenced by seasonal changes, climatic conditions, and the needs of plants and animals. These activities naturally integrate physical movement, responsibility, time

management, and purposeful engagement into everyday life, thereby creating opportunities for older adults to maintain active and meaningful lifestyles. Through regular ecological engagement, individuals are able to establish a rhythm of daily living that promotes discipline, continuity, and sustained participation in everyday activities.

Within the context of the present study, this theme explores how nature-based activities become integrated into the daily routines of older adults and contribute to the development of disciplined and purposeful lifestyles. It examines the ways in which ecological engagement structures everyday life, encourages responsibility, regulates daily rhythms, and supports continued engagement in meaningful activities during later life.

SUBTHEMES

5.4.1 Nature-Based Activities as a Source of Rhythmic and Structured Daily Life

A prominent pattern emerging from the participants' narratives is the integration of nature-based activities into their everyday routine, creating a disciplined and well-structured rhythm of life. Ecological engagement was not described as an occasional activity undertaken during leisure time but as a regular and inseparable component of daily living. Participants explained that their days were carefully organized around farming, gardening, animal care, and other ecological responsibilities, beginning in the early morning and continuing until evening. These routines reflected consistency, purpose, and continuity, enabling them to organize their time in a meaningful manner. Although the specific activities differed according to individual circumstances, health conditions, and types of cultivation, all participants described ecological engagement as providing a stable framework that shaped the rhythm of their everyday lives.

"My daily routine starts at around four-thirty in the morning. After prayer, I prepare food and help my granddaughter get ready for school. Once the household work is completed, I go straight to my vegetable garden. Every morning I water the plants and check carefully whether there are any pests or worms. In the evening I again go to the vegetable garden to water the plants, and before going to bed I once more visit the garden and look for any caterpillars." (Case 1). "I wake up every morning at four o'clock. After prayers we go to church. Around nine o'clock I go down to the farmland and remain there until midday. After returning home I prepare lunch, take a little rest, and then we go down again to the fields. This continues until six o'clock in the evening. Except for Sundays, every day of the year proceeds in the same way." (Case 3). "My day

usually begins at four in the morning. Before beginning any work, I spend time in prayer, reading the Bible, and participating in Holy Mass. After completing these practices, I move directly into agricultural work. Depending on the requirements of the day, I either go for rubber tapping or attend to other farming-related activities. These programs are repeated every day." (Case 9).

These narratives demonstrate that nature-based activities were closely interwoven with the participants' daily lives and served as an organising framework for their routine. The day was structured around ecological responsibilities that required regular attention and consistent participation, creating a predictable pattern of living. Rather than experiencing later life as unstructured or inactive, the participants organised their everyday lives around farming and other ecological practices, allowing them to maintain continuity, discipline, and purposeful engagement from morning until evening.

Discussion

The findings indicate that nature-based activities play a crucial role in structuring the daily lives of older adults by providing a consistent rhythm and temporal order. Participants' routines—such as early rising, tending to crops, watering plants, and caring for animals—reflect a deeply embedded pattern where ecological engagement becomes the organizing principle of the day. This rhythmic structuring is not incidental but intentional, offering continuity and predictability in everyday life. In later adulthood, where transitions such as retirement, loss of roles, or reduced social engagement may disrupt daily structure, such ecological routines act as stabilizing anchors.

From a well-being perspective, this structured rhythm contributes significantly to psychological security. The predictability of daily activities reduces uncertainty and anxiety, enabling older adults to experience a sense of control over their time. Unlike passive routines, these are active, purposeful engagements that demand attention and participation, thereby preventing stagnation. This aligns with Activity Theory (Havighurst, 1961), which posits that sustained engagement in meaningful activities enhances life satisfaction and promotes active ageing.

Furthermore, the rhythmic engagement with nature fosters a sense of temporal belonging, where individuals align their daily lives with natural cycles such as sunrise, seasonal changes, and climatic conditions. This ecological synchronization enhances not only physical activity but also cognitive alertness, as individuals remain attentive to the

needs of their environment. The absence of idle time, as reflected in participant narratives, minimizes the likelihood of rumination and promotes mental clarity.

Thus, nature-based routines contribute to holistic well-being by providing structure, reducing psychological distress, and fostering a meaningful engagement with time. They transform daily life from passive existence into an active, organized, and purpose-driven process, which is essential for maintaining dignity and stability in later life.

5.4.2 Discipline, Responsibility and Meaningful Engagement in Later Life

The participants' narratives revealed that ecological engagement extended beyond maintaining a daily routine and fostered a strong sense of discipline, responsibility, and meaningful involvement in later life. Nature-based activities required regular care, attention, and commitment, making participants responsible for the well-being of plants, animals, and the surrounding environment. These responsibilities became an integral part of their everyday lives and encouraged them to remain active despite advancing age and health-related limitations. Rather than perceiving these responsibilities as burdens, participants described them as meaningful obligations that motivated them to continue their daily activities. The consistent care required by farming and animal husbandry instilled a sense of accountability, reinforcing their role within the household and providing purpose to everyday living.

"My day begins early in the morning with prayer. After completing my prayer routine, I move directly into farming activities around the house. I care for the vegetables and trees, check the condition of the land, water the plants, and attend to cultivation-related tasks before turning to other household responsibilities. Alongside these activities, caregiving remains central to my day because my elder daughter requires support for most daily activities. In the evenings, I again return to the farm and continue cultivation work. Since this has become a habit, I do it regularly every day without fail." (Case 4).

"Speaking about my daily routine, I wake up very early in the morning. After prayers and everything, I take care of making coffee and other household matters. Every morning I attend to the goats and the vegetables. I go to the goats and give them the necessary water and feed. Then I cultivate, as far as possible, all the available spaces near my house and adjacent areas. In the evening hours, I mostly pay attention to animal care. I have to prepare feed for the goats. Letting them out into the yard, feeding them, and tying them back is something I do every evening. Along with that, I also go to the ancestral home every day to take care of my husband's elderly mother." (Case 2). "I

usually wake up around 4:30 in the morning and begin the day with prayer. After completing the initial household work and preparing morning coffee, I attend to the animals maintained at home. Animal care forms a regular part of my daily life. During seasons when the nutmeg trees yield produce, I spend time attending to them before preparing meals. After lunch, I return to the yard, attend to cultivation activities, water the vegetables, and complete other pending work. I do whatever is possible according to my health." (Case 8).

The participants' experiences demonstrate that ecological engagement involved much more than completing agricultural tasks. Caring for crops, livestock, and the surrounding environment required regular commitment and fostered a sense of responsibility that structured their everyday lives. These responsibilities encouraged participants to remain active, organised, and productive while reinforcing their continued contribution to family life. Even when age-related limitations affected their physical capacity, they adapted their activities according to their abilities and continued to fulfil their responsibilities. Thus, ecological engagement emerged as a meaningful source of discipline and purposeful involvement, enabling older adults to experience later life as a period of continued participation rather than withdrawal.

Discussion

The narratives reveal that ecological activities instill a strong sense of discipline and responsibility among older adults, which significantly contributes to their sense of purpose and self-worth. Participants consistently describe their obligation towards caring for plants, animals, and land, indicating that these responsibilities are internalized as part of their identity. Even in the face of declining physical strength or health issues, they continue to uphold these responsibilities, reflecting a deep commitment to their roles.

This sense of discipline is not externally imposed but self-regulated, emerging from long-standing habits and values associated with agrarian life. Such disciplined engagement ensures that older adults remain active and engaged, thereby preventing withdrawal and passivity. From a theoretical standpoint, this aligns with Activity Theory (Havighurst, 1961), which emphasizes that maintaining active roles in later life contributes to higher levels of satisfaction and well-being.

Meaningful engagement in ecological activities also serves as a substitute for lost occupational roles after retirement. Many participants previously held structured roles

in employment or family systems; however, in later life, these roles may diminish. Nature-based responsibilities fill this gap by providing a renewed sense of usefulness and contribution. This process reflects the principles of Continuity Theory (Atchley, 1989), where individuals strive to maintain consistency in their roles and behaviours to preserve identity.

From a well-being perspective, the combination of discipline and responsibility enhances emotional resilience and self-esteem. Older adults perceive themselves as productive and capable, which counters societal narratives of dependency in ageing. Additionally, the sense of accountability towards living entities (plants, animals) fosters emotional attachment and empathy, enriching their psychological experience.

Thus, discipline and responsibility derived from ecological engagement are not merely functional aspects but central to sustaining purpose, identity, and emotional well-being in later life.

5.4.3 Nature as a Regulator of Time, Body, and Life Rhythm

. Another significant aspect emerging from the participants' narratives is the manner in which nature itself regulated their daily rhythm and influenced the organisation of everyday life. Rather than depending on artificial schedules or fixed timeframes, participants described their routines as being closely aligned with natural cycles such as sunrise, temperature, seasonal variations, and the biological needs of plants and animals. Their agricultural activities were planned according to favorable climatic conditions, while periods of rest and household responsibilities were adjusted in response to environmental changes. This close synchronization with nature enabled participants to maintain a balanced rhythm of work, rest, and social life. The narratives suggest that ecological engagement encouraged them to organise their daily lives in harmony with the natural environment, making nature an important guide in shaping their routine and pace of living.

"My day usually begins around six in the morning with black coffee and a light meal. Before the heat of the day increases, I go outside and engage in farming activities according to what my health allows. Around eleven in the morning I return home, have lunch, rest briefly, and later resume field activities during the evening hours with support from workers where necessary. After completing the day's activities, I follow a quiet evening routine of bathing, prayer, reading, and sleep." (Case 5). "I wake up early every morning. After milking the cow, I personally deliver the milk to the local society

and then attend Holy Mass at church. Returning home, I have coffee, spend some time reading the newspaper, and then continue attending to cattle and small cultivation activities around the house. After completing these tasks, I rest for some time, have lunch, and take a short afternoon break. Evenings are usually reserved for spending time with my grandchildren. Dinner is taken early, and I usually go to bed by around seven in the evening." (Case 6).

The participants' narratives illustrate that nature played an important role in regulating the rhythm of their everyday lives. Their routines were closely connected with environmental conditions, allowing them to organise work, rest, and other responsibilities in accordance with natural cycles. Agricultural activities were carried out during favourable periods of the day, while rest and household tasks were adjusted to climatic conditions and bodily needs. Such a rhythm enabled participants to maintain an organised lifestyle that remained closely connected with the natural environment. Rather than following externally imposed schedules, they adapted their daily lives to the changing patterns of nature, reflecting a harmonious relationship between ecological engagement and everyday living.

Discussion

The data suggest that nature functions as a powerful regulator of time, bodily processes, and overall life rhythm among older adults. Participants' routines are closely aligned with natural cycles, such as waking early with sunrise, engaging in physical work during favourable climatic conditions, and resting in accordance with bodily needs. This synchronization reflects a holistic integration of human life with ecological rhythms, where nature dictates not only activities but also the pace and structure of living.

From a physiological perspective, this alignment supports bodily regulation. Regular physical activity through farming or gardening enhances mobility, flexibility, and endurance, while exposure to natural light and fresh air contributes to improved sleep patterns and metabolic functioning. Participants' accounts of better appetite, reduced fatigue, and sustained energy levels indicate that ecological engagement plays a vital role in maintaining physical health.

Psychologically, this synchronization fosters a sense of harmony and balance. The predictable cycles of nature provide a calming and stabilizing influence, reducing stress and promoting emotional equilibrium. This aligns with eco-psychology (Roszak, 1992),

which posits that human well-being is intrinsically connected to the natural environment and that interaction with nature has restorative effects on the mind.

Moreover, nature's regulatory role extends to cognitive functioning. Engaging with dynamic environmental elements, such as monitoring plant growth, responding to weather changes, and managing resources, requires attention, problem-solving, and adaptability. This continuous cognitive engagement helps maintain mental sharpness and reduces the risk of cognitive decline.

In terms of well-being, the integration of bodily, temporal, and environmental rhythms enhances overall quality of life. It fosters a balanced lifestyle where physical, mental, and emotional aspects are harmoniously interconnected. Thus, nature acts as a living framework that sustains health, regulates behavior, and promotes holistic well-being in later life.

5.4.4 Routine as a Protective Mechanism against Psychological Decline

. The participants' narratives revealed that regular engagement in nature-based activities served not only as a means of organising daily life but also as an important source of psychological stability. Ecological routines occupied a substantial portion of their day, leaving little room for prolonged inactivity or isolation. Participants described remaining continuously engaged in farming, gardening, and other nature-related responsibilities, which helped them maintain an active lifestyle and a sense of purpose. Their accounts suggest that these structured routines provided continuity in everyday life and enabled them to remain mentally occupied despite the various transitions associated with ageing. Rather than experiencing later life as a period of inactivity, participants viewed their daily ecological practices as meaningful engagements that kept them physically, mentally, and socially involved.

"I hardly remain idle during the day. Even when I feel tired, once I start engaging in nature-based activities, I can keep working without giving much importance to that fatigue. These nature-related activities help me maintain my mental happiness. Keeping occupied throughout the day prevents feelings of laziness and contributes to maintaining a positive state of mind." (Case 1). "Mentally speaking, farming helps me to forget difficulties and move on. When we pay more attention to farming, we do not notice this pain. Farming helps me to keep moving instead of sitting and thinking about problems." (Case 3). "My day usually begins at four in the morning. Before beginning any work, I spend time in prayer, reading the Bible, and participating in Holy Mass. After

completing these practices, I move directly into agricultural work. Depending on the requirements of the day, I either go for rubber tapping or attend to other farming-related activities. These programs are repeated every day. Through agriculture I find peace, happiness, and satisfaction." (Case 9).

The participants' experiences demonstrate that structured ecological routines functioned as an important part of their everyday lives by keeping them actively engaged throughout the day. Their regular involvement in farming and other nature-based activities reduced opportunities for prolonged inactivity and encouraged continuous participation in meaningful tasks. Participants described these routines as helping them remain occupied, maintain emotional balance, and continue with their daily responsibilities despite age-related changes and personal challenges. Their narratives indicate that ecological engagement provided a stable and purposeful routine that supported continuity in everyday living while helping them cope with the psychological demands associated with later life.

Discussion

The findings highlight that structured routines derived from nature-based activities act as a significant protective mechanism against psychological decline among older adults. Participants consistently indicate that their engagement in daily ecological tasks leaves little room for idleness, which in turn prevents the onset of negative thought patterns, loneliness, and emotional distress. The absence of unstructured time reduces opportunities for rumination, which is often associated with anxiety and depression in later life.

Routine provides a sense of continuity and stability, particularly in a life stage marked by multiple transitions such as retirement, bereavement, and declining health. By maintaining a consistent daily schedule, older adults are able to preserve a sense of normalcy and control. This aligns with Continuity Theory (Atchley, 1989), which emphasizes that maintaining familiar patterns of behavior supports psychological adaptation and well-being in ageing.

Furthermore, routine-based ecological engagement offers cognitive stimulation through repetitive yet purposeful activities. Tasks such as planting, watering, and monitoring crops require attention and planning, which help sustain cognitive functioning. This continuous engagement reduces the risk of cognitive stagnation and enhances mental alertness.

Emotionally, routine acts as a stabilizing force. It provides a sense of accomplishment and satisfaction upon completing daily tasks, thereby reinforcing positive emotions. The interaction with nature also offers a therapeutic outlet, allowing individuals to channel their emotions constructively. This resonates with therapeutic landscape theory, where natural environments are seen as spaces that promote healing and emotional well-being.

In terms of overall well-being, routine functions as a protective buffer that enhances resilience, reduces psychological vulnerability, and fosters a sense of purpose. It transforms daily life into a structured and meaningful experience, thereby safeguarding mental health and promoting a dignified ageing process.

RESEARCH QUESTION 2: HOW DO GREEN ACTIVITIES IN OLDER ADULTS SUPPORT THEIR PHYSICAL HEALTH AND DAILY ROUTINE?

There are two themes under this research question.

1. Ecological Activities Bring Multidimensional Health Benefits
2. Ecological Engagement and Mental Health Well-Being

5.5 THEME 3: ECOLOGICAL ACTIVITIES BRING MULTIDIMENSIONAL HEALTH BENEFITS

Health in later life is a multidimensional concept that extends beyond the absence of disease and encompasses physical, psychological, functional, and social well-being. With increasing age, maintaining health requires approaches that support not only bodily functioning but also emotional resilience, independence, and active participation in everyday life. Nature-based activities such as farming, gardening, and animal care have increasingly been recognized as important contributors to healthy ageing because they integrate physical movement, meaningful engagement, interaction with the natural environment, and opportunities for continued participation in daily life. Unlike structured therapeutic interventions, these activities are embedded within the ordinary routines of individuals and therefore have the potential to influence multiple dimensions of well-being simultaneously. Within the context of the present study, the theme explores the multidimensional health benefits associated with ecological engagement among older adults, highlighting how these activities contribute to physical functioning, emotional well-being, and the maintenance of an active and healthy lifestyle. The different dimensions of these experiences are presented through the following sub-themes.

SUBTHEMES

5.5.1 Ecological Activities as Informal Physical Exercise

One of the prominent findings emerging from the participants' narratives is the perception of ecological engagement as a natural form of physical exercise that is seamlessly integrated into everyday life. Rather than engaging in planned or structured exercise programs, the participants described farming, gardening, and other nature-based activities as providing continuous physical movement through routine agricultural tasks. Activities such as digging, watering, planting, weeding, carrying materials, tending livestock, and walking across farmland required sustained bodily movement and encouraged participants to remain physically active throughout the day. Unlike formal exercise, these activities were performed as part of their ordinary responsibilities and were therefore viewed as both meaningful and enjoyable. The participants consistently associated ecological engagement with maintaining physical strength, mobility, endurance, and functional independence during later life, indicating that nature-based activities formed an important part of their everyday physical well-being.

"The activities I do in connection with nature greatly support my physical well-being. I rarely experience tiredness. Even when I do feel tired, once I start engaging in nature-based activities, I can keep working without giving much importance to that fatigue. Because of my active routine, I hardly remain idle during the day. These activities improve my appetite and also help me sleep better." (Case 1). "Certainly, farming provides many physical benefits. Farming helps to keep the body healthy. It also helps me stay active and not become lazy, and keeps me doing something. Because of that, it helps with appetite and getting good sleep." (Case 2). "Working in the soil in the morning is good exercise. I get good appetite and sleep. Even at this age, farming helps me stay active without major illnesses." (Case 4). "Engaging in farming is a kind of exercise." (Case 6).

The narratives indicate that participants experienced ecological engagement as an integral part of maintaining an active lifestyle rather than as an alternative to formal exercise. Everyday farming activities naturally incorporated physical movement into their routine, enabling them to remain active while fulfilling meaningful responsibilities. Participants described these activities as contributing to bodily strength, reducing physical inactivity, and supporting their ability to continue everyday tasks despite advancing age. Their experiences demonstrate that ecological activities were not

perceived merely as agricultural work but also as an important means of sustaining physical functioning and promoting active living throughout later adulthood.

Discussion

The findings clearly indicate that ecological activities function as a form of informal, sustained physical exercise for older adults, embedded within their daily life rather than structured as separate health interventions. Participants describe activities such as watering plants, digging soil, feeding animals, and maintaining crops as routine engagements that require bodily movement, flexibility, and endurance. Unlike formal exercise regimes, these activities are intrinsically meaningful and purpose-driven, which enhances adherence and continuity even in advanced age.

From an interpretative perspective, this form of physical engagement reflects a functional embodiment of ageing, where the body remains active through necessity and lived practice rather than external motivation. Participants often report that even when experiencing fatigue or illness, engagement in farming reduces their perception of physical discomfort. This suggests that ecological work not only strengthens the body but also reshapes subjective experiences of pain and limitation. The body, therefore, is not merely a site of decline but a medium of continued productivity and vitality.

Linking this to well-being, such activities contribute significantly to physical health outcomes, including improved mobility, stamina, appetite, and sleep patterns. This aligns with the concept of Successful Ageing (Rowe & Kahn, 1997), which emphasizes the importance of maintaining physical functioning and active engagement in life. Additionally, the integration of movement within meaningful tasks ensures sustainability, as older adults are more likely to continue such activities compared to abstract exercise routines.

Thus, ecological engagement transforms physical activity into a lived, enjoyable, and purposeful process, contributing to both preventive health and the maintenance of bodily autonomy. It enhances not only physical strength but also the perception of capability, thereby promoting dignity and independence in later life.

5.5.2 Ecological Engagement as a Therapeutic and Healing Process

The participants' narratives revealed that ecological engagement was experienced not only as a physically active process but also as a therapeutic practice that helped them cope with bodily discomfort, chronic illnesses, and the physical changes associated with

ageing. Although many participants were living with long-term health conditions and persistent pain, they explained that engaging in farming and other nature-based activities altered the way they experienced these conditions. Rather than focusing on illness and discomfort, ecological activities encouraged them to remain occupied, physically engaged, and mentally attentive to their surroundings. The participants did not describe farming as a cure for illness; instead, they viewed it as a meaningful activity that reduced the burden of living with pain and enabled them to continue functioning in their everyday lives.

"After this chikungunya disease, I often experience body pain and physical strain. But when we pay more attention to farming, we do not notice this pain. It gives a lot of physical strength." (Case 3). "I have blood pressure, diabetes, and some bone-related problems, but when I am engaged in farming I cannot keep remembering or complaining about the pain. Doing activities related to agriculture helps me to cope to some extent with my physical difficulties. It gives a kind of physical alertness." (Case 8). "I am a diabetic patient, but I do not have any major health problems. I have no hesitation in engaging in physically demanding tasks. Farming helps me to prevent these health problems from becoming worse." (Case 9).

The participants' experiences demonstrate that ecological engagement contributed to their ability to live with chronic illness rather than allowing illness to dominate their everyday lives. By remaining actively involved in farming and related activities, they shifted their attention away from physical discomfort and continued participating in meaningful work. Their narratives suggest that ecological engagement became an important part of their coping process, enabling them to manage age-related health challenges while maintaining a positive outlook and continued involvement in daily life.

Discussion

The participants' narratives reveal that engagement with nature possesses a strong therapeutic dimension, particularly in relation to managing physical discomfort and chronic health conditions. Many participants describe how involvement in farming or gardening reduces their awareness of bodily pain, suggesting that nature-based activities serve as a form of distraction, immersion, and healing. This indicates that the therapeutic effect is not purely physiological but also psychological, where attention is redirected from pain to productive engagement.

From an interpretative standpoint, this reflects the concept of biophilia (Wilson, 1984), which suggests an inherent human affinity towards nature that promotes healing and restoration. The sensory engagement involved in ecological activities—touching soil, observing plant growth, and interacting with animals—creates a multi-sensory environment that supports physical and emotional recovery. Participants' accounts of “forgetting pain” while working highlight how nature acts as a medium of embodied therapy.

In terms of well-being, this therapeutic engagement contributes to holistic health, integrating physical relief with emotional satisfaction. It reduces dependency on medical interventions by offering a complementary, non-pharmacological coping mechanism. This is particularly relevant in the context of ageing populations, where chronic illnesses are prevalent and long-term medical management can be burdensome.

Furthermore, this aligns with eco-psychological theory (Roszak, 1992), which posits that human health is deeply interconnected with ecological systems, and that reconnection with nature can restore both physical and mental balance. The therapeutic benefits observed among participants demonstrate that ecological activities serve as accessible and culturally embedded health resources.

Thus, nature-based engagement functions as a self-regulating therapeutic practice, enhancing resilience, reducing perceived pain, and promoting a sense of bodily well-being in later life.

5.5.3 Sustaining Functional Ability and Active Ageing Despite Physical Decline

. Another important aspect reflected in the participants' narratives is their ability to adapt ecological activities according to changing physical capacities while continuing to remain active in later life. Although participants acknowledged that ageing had reduced their physical strength and limited their ability to perform strenuous work, they did not view these changes as reasons to withdraw completely from ecological engagement. Instead, they modified the nature, duration, and intensity of their activities according to their health and physical ability. Their experiences suggest that ecological engagement remained a meaningful part of everyday life by allowing them to continue participating in productive activities within their own capabilities.

"Before the heat of the day increases, I go outside and engage in farming activities according to what my health allows. I no longer attempt heavy work, but I continue cultivation in ways suited to my physical capacity." (Case 5). "As I told you, I have

heart-related illness. Because of that, I have reduced involvement in tasks that demand heavy physical labor. But this reduction does not mean complete inactivity. I have adapted my engagement according to my present physical capacity while maintaining meaningful involvement in everyday activities." (Case 6). "There are various illnesses that have reduced my capacity for heavy work. Therefore, I do whatever is possible according to my strength. However, I have not withdrawn from farming. I continue participating in agricultural and household work in ways that remain manageable." (Case 8).

These narratives indicate that participants responded to physical decline by adapting their ecological engagement rather than discontinuing it altogether. Their continued involvement in farming and other nature-based activities reflected flexibility, resilience, and a willingness to remain active despite age-related limitations. By adjusting their responsibilities according to their physical abilities, participants were able to sustain their functional independence and continue contributing to household and agricultural activities throughout later life.

Discussion

The data suggest that ecological activities significantly contribute to the enhancement of energy levels, vitality, and functional independence among older adults. Participants frequently describe a sense of physical vigor and sustained energy derived from their engagement with farming and gardening. This vitality is not merely physical but also experiential, reflecting an overall sense of liveliness and engagement with life.

Interpretatively, this can be understood as a process of active ageing, where individuals maintain their functional abilities through continuous engagement in meaningful activities. The repetitive yet dynamic nature of ecological tasks ensures that the body remains active, preventing stiffness, weakness, and functional decline. Participants' ability to perform daily tasks independently reinforces their autonomy and reduces reliance on others, which is a critical aspect of dignity in ageing.

From a theoretical perspective, this aligns with Successful Ageing theory (Rowe & Kahn, 1997), which highlights the importance of maintaining physical functioning and independence as key indicators of well-being. Additionally, the sense of vitality experienced by participants reflects the concept of eudaimonic well-being, where fulfillment arises from purposeful activity rather than passive pleasure.

In terms of well-being, increased vitality enhances overall quality of life by enabling older adults to remain active participants in their family and community contexts. It also reduces the risk of physical and psychological decline, as inactivity is often associated with both. The perception of being capable and energetic further strengthens self-confidence and life satisfaction.

Thus, ecological engagement serves as a powerful mechanism for sustaining functional independence and vitality, enabling older adults to experience ageing not as a period of decline but as a phase of continued activity and contribution.

5.5.4 Ecological Engagement as an Embodied Experience of Vitality and Energy

. Beyond maintaining physical activity and functional ability, the participants also described ecological engagement as a source of vitality, energy, and physical rejuvenation. Farming was not experienced as exhausting labor that depleted strength; instead, participants repeatedly explained that working in natural environments generated feelings of renewed energy and bodily vigour. They associated ecological engagement with maintaining an active body, increasing stamina, and experiencing a sense of liveliness even in old age. These experiences challenged common assumptions that physical work inevitably becomes burdensome during later life and instead reflected the energising nature of sustained engagement with farming and the natural environment.

"The activities I do in connection with nature greatly support my physical well-being. I rarely experience tiredness. Even when I do feel tired, once I start engaging in nature-based activities, I can keep working without giving much importance to that fatigue. All these cultivation practices give a kind of vigour to my body." (Case 1). "I am clearly aware that farming is good for health. Farming also helps to maintain the body's energy even at this age. Watching the crops grow gives me a joy that is greater than money." (Case 5). "At this age, living in tune with nature is a great comfort. When doing animal care and farming, you get a sense of vitality. Fresh air and the sights of nature give peace to the mind." (Case 6).

The participants' accounts illustrate that ecological engagement was associated with feelings of physical vitality rather than fatigue. Nature-based activities were experienced as energising practices that encouraged movement, sustained bodily strength, and promoted a sense of liveliness during later adulthood. Rather than perceiving farming as physically draining, participants described it as an activity that renewed their energy

and enabled them to remain active despite advancing age. These experiences suggest that ecological engagement contributed not only to maintaining physical health but also to fostering a positive and embodied sense of vitality in everyday life.

Discussion

The findings indicate that ecological engagement contributes to preventive health and long-term well-being, functioning as a lifestyle rather than an isolated activity. Participants' involvement in growing their own food, consuming pesticide-free produce, and maintaining active routines reflects a holistic approach to health that integrates physical activity, nutrition, and environmental consciousness.

From an interpretative perspective, this lifestyle represents a proactive approach to health maintenance, where individuals actively engage in behaviours that prevent illness rather than merely responding to it. The emphasis on natural food consumption highlights an awareness of the relationship between environment and health, suggesting that ecological practices extend beyond physical activity to include dietary and lifestyle choices.

This aligns with eco-health perspectives, which emphasize the interconnectedness of human health and environmental sustainability. Participants' preference for chemical-free produce and their concern for natural farming practices indicate a broader understanding of health that includes ecological integrity. This holistic orientation enhances not only individual well-being but also contributes to environmental sustainability.

In terms of well-being, such practices promote long-term physical health, reducing the risk of lifestyle-related diseases. At the same time, they provide psychological satisfaction derived from self-sufficiency and ethical living. The ability to produce and consume one's own food reinforces a sense of control and security, which is particularly valuable in later life.

Thus, ecological activities function as a preventive and sustaining health mechanism, integrating physical, nutritional, and environmental dimensions of well-being. They support a lifestyle that promotes resilience, longevity, and a deeper sense of harmony with nature, ultimately contributing to holistic and sustainable ageing.

5.6 THEME 4: ECOLOGICAL ENGAGEMENT AND MENTAL HEALTH WELL-BEING

Mental health and well-being constitute an essential dimension of healthy ageing, influencing how older adults perceive themselves, cope with life transitions, maintain relationships, and experience overall quality of life. Advancing age is often accompanied by significant life changes such as retirement, declining physical health, bereavement, changing family roles, and reduced social interaction, all of which may affect emotional and psychological well-being. In this context, maintaining positive mental health involves more than the absence of psychological distress; it encompasses emotional balance, resilience, inner peace, a sense of purpose, life satisfaction, and the ability to adapt to changing circumstances. Consequently, there is growing recognition of the role of everyday activities that promote emotional well-being and enable older adults to remain meaningfully engaged with their environment.

Ecological engagement has increasingly been recognised as one such avenue for promoting mental well-being. Activities such as farming, gardening, and caring for plants and animals offer opportunities for purposeful engagement, connection with nature, emotional expression, and psychological restoration. Unlike formal mental health interventions, these activities are embedded within the daily lives and cultural practices of individuals, making them accessible, familiar, and sustainable. Engagement with the natural environment encourages reflection, provides opportunities for relaxation, reduces emotional strain, and fosters a sense of accomplishment through nurturing and caring for living systems. Such experiences can contribute to emotional resilience, strengthen coping capacities, and support a positive outlook towards life.

Within the context of the present study, this theme explores how ecological engagement contributes to the mental health and psychological well-being of older adults. It focuses on the various ways in which nature-based activities support emotional regulation, provide relief from psychological distress, foster inner peace and life satisfaction, strengthen resilience, and help older adults navigate the emotional challenges associated with ageing.

SUBTHEMES

5.6.1 Green Activities as a Medium for Emotional Ventilation and Psychological Release

One of the most prominent findings emerging from the participants' narratives is that ecological engagement provided an important emotional outlet through which they were able to cope with the psychological demands of later life. Participants described farming, gardening, and other nature-based activities as experiences that enabled them to move beyond emotional distress by engaging their attention in purposeful work. Rather than expressing their emotions through direct verbal communication, they often processed feelings of anxiety, worry, sadness, and everyday stress while working in natural environments. Ecological activities became meaningful spaces where participants experienced emotional comfort, inner satisfaction, and psychological relief through continuous interaction with nature. Their accounts suggest that engaging with plants, soil, and the natural environment helped them regulate emotions while maintaining a positive outlook towards everyday life.

"Mentally speaking, farming helps me to forget difficulties and move on. Rather than remaining occupied with worries or dwelling on hardships, farming helps me continue my daily life with a sense of normalcy." (Case 3). "It is great peace for the mind. Especially, working in the soil helps to reduce anxieties about my daughter's health condition. I get great satisfaction in life from this. Farming is a joy." (Case 4). "Through agriculture I find peace, happiness, and satisfaction. Agriculture is not merely my occupation but something that gives me emotional fulfilment and helps me experience inner peace in everyday life." (Case 9).

The participants' narratives demonstrate that ecological engagement functioned as an important source of emotional relief during later life. Nature-based activities enabled them to remain occupied with purposeful work while reducing the intensity of emotional distress associated with personal challenges, caregiving responsibilities, and everyday worries. Rather than avoiding difficult experiences, participants described farming as helping them gradually regain emotional balance through continuous engagement with the natural environment. Their accounts indicate that ecological activities created opportunities for emotional expression, psychological comfort, and inner satisfaction, making them a meaningful part of their everyday coping process.

Discussion

The findings strongly suggest that ecological engagement functions as a vital emotional outlet and coping mechanism for older adults, enabling the ventilation of psychological distress. Participants frequently articulate that engaging in farming or gardening allows them to “forget worries,” “move away from tension,” and remain mentally occupied. This indicates that nature-based activities provide a non-verbal, experiential mode of emotional processing, where distress is not necessarily articulated but is gradually diffused through embodied engagement.

Interpretatively, this reflects a form of behavioural activation, where purposeful activity reduces psychological distress by shifting attention away from negative thought patterns. Rather than remaining passive recipients of stress, participants actively engage in ecological tasks that demand concentration, physical movement, and sensory involvement. This process interrupts cycles of rumination, which are often associated with anxiety and depression in later life. The repetitive and immersive nature of these activities allows individuals to enter a state similar to “flow,” where cognitive focus on the task reduces awareness of emotional burdens.

From a theoretical standpoint, this aligns with eco-psychology (Roszak, 1992), which posits that reconnection with nature restores psychological balance and reduces emotional distress. Additionally, the findings resonate with Stress Reduction Theory (Ulrich, 1983), which suggests that natural environments facilitate rapid emotional recovery from stress. The participants’ experiences of calmness and mental relief reflect this restorative capacity of nature.

In this study, participants’ engagement with soil, plants, and natural cycles reflects precisely this restorative ecological connection. Additionally, Attention Restoration Theory (Kaplan & Kaplan, 1989) explains how natural environments: reduce mental fatigue, restore directed attention, promote emotional regulation.

In terms of well-being, this subtheme highlights how ecological engagement serves as an accessible, culturally embedded mental health intervention. Unlike formal counselling or therapy, which may be inaccessible or stigmatized, nature-based activities provide a socially acceptable and self-directed means of coping. They enable older adults to maintain emotional equilibrium without external dependency.

Moreover, the sense of productivity associated with these activities enhances self-worth, which further buffers against psychological distress. The integration of emotional regulation within daily routines ensures that mental well-being is continuously supported rather than addressed only during crises.

Thus, ecological activities function as a natural therapeutic medium, facilitating emotional ventilation, reducing stress, and promoting psychological resilience, thereby significantly enhancing mental well-being in later life

5.6.2 Ecological Engagement as a Strategy to Overcome Loneliness and Existential Emptiness

Another significant aspect emerging from the participants' narratives is the role of ecological engagement in helping them cope with loneliness and the emotional emptiness often experienced during later life. Ageing is frequently accompanied by life transitions such as the loss of a spouse, children moving away from home, reduced social interaction, and changes in family structure, all of which may create feelings of isolation and purposelessness. Within this context, participants described farming, gardening, and other nature-based activities as meaningful engagements that occupied their time, provided companionship through interaction with the natural environment, and helped them continue with everyday life. Their experiences suggest that ecological engagement transformed periods of loneliness into opportunities for purposeful activity and emotional comfort.

"Especially after my husband's death, the loneliness I experience is greater than what I can share with others. We cannot tell everything to everyone. Gardening helps a lot to remove that loneliness. Through it, I am able to avoid unnecessary thoughts, calm my mind to some extent, and experience a pleasant joy." (Case 7). "At this stage of life, only my husband and I remain at home. These activities help us spend our time in a good way. Going out into nature itself is a pleasant experience for the mind. Farming removes the possibilities of loneliness and restlessness." (Case 8).

The participants' narratives indicate that ecological engagement became an important source of emotional companionship during later life. Nature-based activities provided opportunities to remain meaningfully occupied while reducing feelings of loneliness associated with bereavement, changing family relationships, and reduced social interaction. Rather than experiencing empty time as a period of emotional distress, participants described ecological engagement as helping them create purpose, maintain

emotional balance, and continue their everyday lives with a sense of fulfilment. These experiences suggest that interaction with nature offered comfort and continuity during periods of emotional vulnerability.

Discussion

The data reveal that ecological engagement plays a crucial role in mitigating loneliness and social isolation, which are significant concerns in later life. Participants, particularly those living in nuclear households or experiencing the loss of a spouse, describe nature-based activities as a way to “spend time meaningfully” and avoid feelings of emptiness. This suggests that engagement with nature provides not only physical occupation but also emotional companionship and existential fulfillment.

Interpretatively, this reflects the concept of substitutive social engagement, where interaction with nature and ecological processes partially compensates for reduced human interaction. Plants, animals, and the natural environment become relational entities that evoke care, attention, and emotional investment. This relational dimension of ecological engagement challenges the notion that social well-being is solely dependent on human relationships, expanding it to include human–nature connectedness.

From a theoretical perspective, this aligns with Biophilia Hypothesis (Wilson, 1984), which proposes that humans possess an innate tendency to seek connections with nature and other forms of life. It also resonates with Socioemotional Selectivity Theory (Carstensen, 1992), where older adults prioritize emotionally meaningful engagements. Nature-based activities, being both meaningful and calming, fulfill this need effectively.

In terms of well-being, the reduction of loneliness has profound implications for mental health. Loneliness is associated with increased risks of depression, cognitive decline, and reduced life satisfaction. By providing a consistent source of engagement and emotional connection, ecological activities act as a protective factor against these risks. The sense of companionship derived from nurturing living entities fosters emotional warmth and reduces feelings of abandonment.

Additionally, these activities often indirectly facilitate social interaction, as participants share produce, exchange knowledge, or engage in conversations related to farming. Thus, ecological engagement bridges both intrapersonal and interpersonal dimensions of well-being.

Overall, this subtheme demonstrates that nature-based activities serve as a buffer against loneliness, promoting emotional stability, connectedness, and a sense of belonging, which are essential components of holistic well-being in later life.

5.6.3 Emotional Regulation and Development of Psychological Resilience

The participants' narratives also reveal that ecological engagement contributed to the development of emotional resilience by helping them respond positively to challenges, disappointments, and uncertainties encountered in everyday life. Farming was described as an activity that required patience, perseverance, and the ability to adapt to changing circumstances such as crop failure, climatic variations, and other unforeseen difficulties. Through repeated engagement with these experiences, participants explained that they gradually learned to accept setbacks, recover from disappointment, and continue their efforts with renewed determination. Alongside developing resilience, ecological engagement also generated feelings of satisfaction, contentment, and emotional stability, enabling participants to approach everyday life with a more positive outlook.

"Most importantly, farming helps me learn resilience. Sometimes the things we plant get destroyed, but farming helps me to farm again and overcome that failure." (Case 2).

"Mental happiness is a major factor. When I see the produce coming, it gives a joy to the mind that is greater than money. You can make money, but mental happiness is not something you can get by paying money." (Case 5). "Through agriculture I find peace, happiness, and satisfaction. Agriculture gives me emotional fulfilment and helps me continue with confidence despite the changing circumstances of life." (Case 9).

The participants' experiences demonstrate that ecological engagement supported emotional regulation by encouraging acceptance, patience, and the ability to cope with setbacks. Farming exposed them to situations that demanded persistence and adaptation, while also providing moments of satisfaction and achievement that strengthened their emotional well-being. Rather than becoming discouraged by difficulties, participants described ecological engagement as helping them develop confidence, maintain hope, and continue moving forward despite personal or environmental challenges. Their narratives suggest that the repeated experiences of nurturing, waiting, and beginning again through nature contributed to the development of psychological resilience during later life.

Discussion

The findings highlight that ecological engagement significantly contributes to emotional regulation and psychological stability among older adults. Participants frequently describe feelings of “peace,” “calmness,” and “satisfaction” derived from working with nature. These experiences indicate that ecological activities facilitate the regulation of emotional states, enabling individuals to maintain balance and composure in the face of life’s challenges.

Interpretatively, this reflects a process of affective regulation through environmental engagement, where interaction with nature helps modulate emotional responses. The sensory qualities of nature—such as greenery, fresh air, and natural sounds—create a soothing environment that reduces emotional arousal and promotes relaxation. At the same time, the goal-oriented nature of farming tasks provides a sense of achievement, reinforcing positive emotions.

This aligns with Attention Restoration Theory (Kaplan & Kaplan, 1989), which posits that natural environments restore depleted cognitive and emotional resources. The effortless attention required in natural settings allows the mind to recover from fatigue, thereby enhancing emotional stability. Additionally, eco-psychological frameworks emphasize that disconnection from nature contributes to psychological distress, while reconnection fosters healing and balance.

From a well-being perspective, emotional regulation is a critical component of mental health, particularly in later life where individuals face multiple stressors, including health issues, loss, and reduced social roles. Ecological engagement provides a continuous and self-sustaining mechanism for managing these stressors. The ability to regulate emotions effectively enhances resilience, enabling individuals to adapt to changing circumstances without significant psychological disruption.

Furthermore, the sense of satisfaction derived from nurturing life and witnessing growth reinforces a positive outlook on life. This contributes to eudaimonic well-being, where fulfillment arises from meaningful engagement and personal growth.

Thus, ecological activities serve as a natural regulator of emotional health, promoting psychological stability, resilience, and a sustained sense of inner peace, thereby significantly enhancing overall well-being in older adulthood.

SPECIFIC QUESTION 3: IN WHAT WAYS DO OLDER ADULTS DESCRIBE PSYCHOLOGICAL BENEFITS THEY EXPERIENCE FROM NATURE-BASED ACTIVITIES?

There is one theme under this question.

1. Ecological Activities as a Medium of Social Connection and Community Bonding

5.7 THEME 5: ECOLOGICAL ACTIVITIES AS A MEDIUM OF SOCIAL CONNECTION AND COMMUNITY BONDING

Social connectedness is an essential component of healthy ageing, as it contributes significantly to emotional well-being, social participation, and overall quality of life among older adults. Advancing age is often accompanied by changes in family structure, retirement, migration of younger generations, and reduced opportunities for social interaction, which may weaken traditional support systems and increase the risk of social isolation. In this context, opportunities that promote meaningful interpersonal relationships, mutual support, and community participation become increasingly important for sustaining well-being in later life. Social relationships foster a sense of belonging, strengthen trust, facilitate emotional support, and enable older adults to remain actively involved in their families and communities.

Ecological engagement provides an important context through which such social relationships can be developed and maintained. Nature-based activities such as farming, gardening, animal care, and the exchange of agricultural knowledge often extend beyond individual practice and involve interaction with family members, neighbours, workers, and the wider community. These activities encourage cooperation, reciprocity, sharing of resources, collective participation, and the preservation of traditional knowledge across generations. Such interactions contribute to the development of social cohesion and strengthen informal support networks that are particularly valuable during later life. Through these shared ecological experiences, older adults are able to maintain meaningful social roles, foster interpersonal relationships, and continue participating actively within their communities.

Within the context of the present study, this theme explores how ecological engagement contributes to social connectedness and community bonding among older adults. It examines the ways in which nature-based activities facilitate cooperation, strengthen interpersonal relationships, promote mutual support, and reinforce a sense of belonging within families and communities.

SUBTHEMES

5.7.1 Cooperation and Social Capital Formation through Ecological Practices

One of the important findings emerging from the participants' narratives is that ecological engagement creates opportunities for cooperation and strengthens social relationships within the community. Agricultural activities were rarely described as individual pursuits; instead, participants explained that farming frequently involved cooperation among family members, neighbours, workers, and fellow farmers. Through shared labour, exchange of agricultural knowledge, mutual assistance, and collective decision-making, ecological activities promoted trust, reciprocity, and a sense of togetherness. Participants also described how these collaborative experiences strengthened interpersonal relationships and fostered mutual dependence, making ecological engagement an important medium through which social capital was developed and sustained within rural communities.

"All our farming is done through mutual cooperation. That helps us develop stronger relationships among ourselves. It reduces conflicts and encourages greater openness and affection. Agriculture is therefore not viewed merely as crop production but also as an activity that sustains social bonds and collective participation." (Case 1). "For the last four or five years, three or four of us friends have been taking land on lease and cultivating together. Along with this, we have a farmers' group called Jyothi Farmers' Group, and we are planning to start a direct marketing outlet. Through agriculture, when we farm together, it also gives us the experience of community." (Case 9). "I give the vegetables produced through farming to neighbours, and that helps to improve relationships." (Case 4).

The participants' experiences demonstrate that ecological engagement encouraged cooperation and strengthened relationships among individuals involved in agricultural activities. Shared farming practices created opportunities for collective participation, exchange of knowledge, and mutual assistance, while also fostering trust and a sense of belonging within the community. These interactions extended beyond agricultural work and contributed to the development of supportive social relationships that enhanced community cohesion and reinforced the collective nature of ecological engagement.

Discussion

The findings under this subtheme reveal that ecological activities function as a critical space for cooperation and the formation of social capital among older adults.

Participants consistently describe farming as a collective and interdependent process, where tasks such as planting, harvesting, maintaining crops, and managing resources often involve the support of family members, neighbours, and local workers. This collaborative dimension reflects a deeply embedded culture of mutual aid and reciprocity, which strengthens interpersonal relationships and fosters trust within the community.

Interpretatively, these interactions contribute to the development of bonding and bridging social capital (Putnam, 2000). Bonding capital is evident in close-knit family and neighbourhood relationships, where support is exchanged within familiar networks. Bridging capital emerges through connections with wider groups, such as farmers' collectives, labour networks, and local institutions. These networks provide not only practical assistance but also emotional support and shared knowledge, thereby enhancing the resilience of older adults.

From a theoretical perspective, this aligns with Social Capital Theory (Putnam, 2000), which posits that social networks, trust, and norms of reciprocity are essential for individual and collective well-being. Ecological activities serve as a natural platform for the cultivation of these elements, as they require cooperation and shared effort. Additionally, Activity Theory (Havighurst, 1961) supports the idea that continued social engagement in meaningful activities contributes to life satisfaction in later life.

In terms of well-being, the presence of strong social capital significantly enhances social and emotional security. Older adults who are embedded in cooperative networks are less likely to experience isolation and are better equipped to challenges such as health issues or economic constraints. The sense of belonging derived from these interactions contributes to emotional well-being and reinforces a positive self-concept.

Moreover, cooperation in ecological activities fosters a sense of collective identity and shared purpose, which transcends individual limitations. It enables older adults to remain active participants in community life, thereby preserving their social relevance and dignity.

Thus, ecological engagement not only sustains livelihoods but also acts as a foundation for social cohesion, enhancing well-being through strengthened relationships, mutual support, and a robust sense of community belonging.

5.7.2 Social Networks as Pillars of Care, Belongingness and Emotional Security

The participants' narratives also highlight that ecological engagement contributed to the development and maintenance of informal social networks that provided emotional support, mutual care, and a sense of belonging during later life. Farming and related ecological activities created regular opportunities for interaction with neighbours, workers, relatives, and other members of the community. These interactions were sustained through the sharing of agricultural produce, exchange of seeds and farming knowledge, and everyday conversations surrounding cultivation. Participants described these relationships as valuable sources of companionship and social connection, demonstrating that ecological engagement supported not only agricultural productivity but also meaningful interpersonal relationships and emotional security.

"I give away the surplus produce from my home to those who ask, and similarly they give to us. Also, when they learn about something new, we share it back and forth. For example, if we get a jackfruit and there are fewer people at home, we cut it into four pieces and share it with others." (Case 2). "There is an informal fellowship between me and my neighbours. We share seeds and saplings with each other. We talk about farming activities and help each other." (Case 6). "I have ongoing relationships with labourers, MGNREGA workers, and people who come to purchase banana bunches. I have ongoing relationships with all of them." (Case 5). "In the city, cultivation does not generate the same neighbourly relationships that existed in the village. Gardening here is mostly household-oriented, and sometimes even when we offer produce, people say they do not need it." (Case 7).

The narratives illustrate that ecological engagement served as an important medium through which older adults maintained social relationships and experienced a sense of belonging. Through everyday interactions associated with farming, participants developed networks of mutual support that extended beyond family relationships. At the same time, the contrast between rural and urban experiences suggests that the social opportunities created through ecological engagement are influenced by the surrounding social environment, with rural settings providing greater scope for relationship building and community interaction.

Discussion

The narratives highlight that ecological activities play a significant role in strengthening social networks that function as pillars of care, support, and belongingness. Participants frequently describe practices such as sharing surplus produce, exchanging seeds, and offering assistance during farming activities. These interactions are not transactional but relational, rooted in a culture of generosity and mutual care.

Interpretatively, such practices reflect a form of informal social support system, where ecological engagement facilitates the creation and maintenance of meaningful relationships. These networks provide emotional support, practical assistance, and a sense of security, particularly in times of need. For older adults, who may face reduced formal support systems, these informal networks become essential for sustaining well-being.

From a theoretical standpoint, this aligns with Socioemotional Selectivity Theory (Carstensen, 1992), which suggests that as individuals age, they prioritize emotionally meaningful relationships over broader social networks. Ecological activities provide a context where such meaningful interactions can occur naturally, without the need for formal arrangements. The sharing of produce and knowledge fosters intimacy and trust, reinforcing close social bonds.

Additionally, this subtheme resonates with Relational Well-being frameworks, which emphasize that well-being is not solely an individual attribute but is deeply embedded in social relationships and contexts. The sense of belonging derived from these networks enhances emotional stability and reduces feelings of loneliness and alienation.

In terms of well-being, strong social networks contribute to psychosocial resilience. They provide a safety net that supports older adults in coping with life's challenges, including health issues, bereavement, and economic difficulties. The act of giving and receiving support also enhances self-worth, as individuals perceive themselves as valuable contributors to their community.

Furthermore, these networks facilitate the exchange of knowledge and resources, enabling older adults to adapt to changing environmental and social conditions. This adaptability further strengthens their sense of competence and autonomy.

Thus, ecological activities serve as a social infrastructure, fostering networks that provide care, support, and belongingness, thereby significantly enhancing the overall well-being of older adults.

5.7.3 Ecological Engagement as a Pathway to Community Participation and Environmental Stewardship

Another important finding emerging from the participants' narratives is that ecological engagement encouraged active participation in community initiatives and strengthened their sense of responsibility towards agriculture and the environment. Beyond household cultivation, several participants described involvement in farmers' groups, agricultural organisations, and community-based initiatives that promoted sustainable farming practices and collective action. Through these activities, participants not only contributed to agricultural development but also became actively involved in sharing knowledge, encouraging other farmers, and supporting community-based ecological initiatives. Their experiences indicate that ecological engagement extended beyond personal well-being and became a means of participating in wider community life while fostering a collective commitment towards environmental stewardship.

"The desire for pesticide-free food encouraged me to continue farming. At the same time, organisations like Infam and VOSARD have encouraged me a lot to continue agriculture." (Case 1). "We have a farmers' group called Jyothi Farmers' Group, and we are preparing to start a shop for direct marketing of agricultural products. Our intention is to strengthen local agriculture and create better opportunities for farmers." (Case 9). "Farming helps socially because we need workers and workers also need us. Farmers always communicate back and forth. Cooperation, unity, sharing, and warm relationships frequently emerge through agricultural practices." (Case 3).

The participants' experiences demonstrate that ecological engagement created opportunities for involvement beyond individual farming activities. Participation in farmers' organisations, community initiatives, and collective agricultural practices enabled them to contribute actively to their local communities while promoting sustainable ecological values. Their narratives suggest that ecological engagement strengthened a shared sense of responsibility towards agriculture, encouraged collaborative action, and reinforced environmental stewardship through collective participation and mutual support..

Discussion

The findings indicate that ecological activities foster a sense of environmental stewardship and collective responsibility, which extends beyond individual well-being to encompass community and ecological sustainability. Participants express concern for issues such as climate change, soil fertility, and sustainable farming practices, reflecting an awareness of their role in maintaining ecological balance.

Interpretatively, this suggests that ecological engagement cultivates a sense of moral and ethical responsibility towards the environment. Older adults perceive themselves not merely as beneficiaries of nature but as custodians who have a duty to protect and preserve it for future generations. This perspective transforms ecological activities into a form of meaningful civic engagement, where individual actions contribute to collective well-being.

From a theoretical perspective, this aligns with Eco-psychology (Roszak, 1992), which emphasizes the interconnectedness of human and environmental well-being. It also resonates with the concept of Generativity (Erikson, 1950), where individuals in later life seek to contribute to the welfare of future generations. Through ecological stewardship, older adults express generativity by ensuring the sustainability of natural resources.

In terms of well-being, this sense of purpose and responsibility enhances eudaimonic well-being, where fulfillment is derived from meaningful and value-driven activities. Engaging in environmentally responsible practices provides a sense of accomplishment and moral satisfaction, which contributes to psychological well-being.

Moreover, ecological stewardship fosters a sense of collective identity and community cohesion, as individuals work together towards common environmental goals. This shared responsibility strengthens social bonds and enhances the sense of belonging.

Thus, ecological engagement not only supports individual health but also promotes environmental consciousness and collective well-being, positioning older adults as active agents of sustainability and community development.

SPECIFIC QUESTION 4: HOW DO GREEN ACTIVITIES INFLUENCE THE SOCIAL WELLBEING OF OLDER ADULTS?

There are three themes under this question

1. Experience of Ageing and Transition through Ecological Engagement
2. Environmental Awareness and Experienced Ecological Change
3. Structural Changes and Declining Sustainability of Agriculture

5.8 THEME 6: EXPERIENCE OF AGEING AND TRANSITION THROUGH ECOLOGICAL ENGAGEMENT

Ageing is a dynamic and multidimensional process characterised by continuous biological, psychological, and social transitions that influence the everyday lives of older adults. As individuals advance in age, they encounter significant life changes such as retirement, declining physical capacity, changes in family roles, bereavement, reduced social participation, and increasing dependence on others. These transitions often require older adults to adapt to new circumstances while preserving their sense of identity, purpose, autonomy, and overall well-being. Consequently, successful ageing is not merely determined by physical health but also by the ability to adjust positively to these life changes and continue participating in meaningful activities.

Meaningful engagement in everyday life plays an important role in facilitating this process of adaptation. Activities that provide continuity with earlier life experiences, maintain familiar roles, and encourage active participation can help older adults negotiate the challenges associated with ageing while preserving their sense of usefulness and self-worth. Such engagements enable individuals to maintain a positive outlook towards ageing by fostering independence, reinforcing personal identity, and creating opportunities for continued contribution to family and community life.

Ecological engagement represents one such meaningful avenue through which older adults can experience continuity and adapt to the transitions of later life. Nature-based activities such as farming, gardening, and animal care provide opportunities to remain physically active, maintain daily routines, continue long-standing practices, and preserve meaningful social and personal roles. These activities also facilitate adaptation to changing life circumstances by promoting active participation, encouraging self-reliance, and supporting a sense of purpose despite the physical, emotional, and social changes associated with ageing. Within the context of the present study, this theme explores how ecological engagement influences the experience of ageing and supports older adults in navigating life transitions while sustaining continuity, independence, and meaningful engagement.

SUBTHEMES

5.8.1 Recognition of Physical Decline and Adaptive Engagement with Ecological Activities

One of the important findings emerging from the participants' narratives is their recognition of the physical changes associated with ageing and their willingness to adapt ecological activities according to their changing capacities. Participants openly acknowledged that advancing age had reduced their physical strength and ability to perform strenuous agricultural work. However, rather than withdrawing from farming and nature-based activities, they described modifying the intensity, duration, and nature of their involvement in accordance with their health and physical abilities. Their experiences suggest that ecological engagement remained an important part of everyday life because it allowed them to continue participating in meaningful activities while respecting the limitations brought about by ageing.

"Ten to fifteen years ago, our agricultural responsibilities were much more extensive. We had cattle, goats, and many different cultivation activities. Those years were physically demanding, but meaningful. With increasing age and health concerns, I gradually reduced the intensity of labour and now focus mainly on essential farming activities." (Case 3). "I have blood pressure, diabetes, and some bone-related problems, but when I am engaged in farming I cannot keep remembering or complaining about the pain. Doing activities related to agriculture helps me to cope to some extent with my physical difficulties. It gives a kind of physical alertness." (Case 8). "Before the heat of the day increases, I go outside and engage in farming activities according to what my health allows. I no longer attempt heavy work but continue cultivation in ways suited to my physical capacity." (Case 5).

The participants' narratives demonstrate that ageing was not perceived as a reason to discontinue ecological engagement. Instead, they consciously adapted their farming practices according to their changing physical abilities while maintaining an active lifestyle. Their experiences reflect a process of adjustment in which physical limitations were acknowledged, but participation in meaningful ecological activities continued through flexibility and adaptation. This enabled them to remain productive and engaged despite the gradual physical changes associated with ageing.

Discussion

The narratives of participants clearly reflect an awareness of age-related physical decline, including reduced strength, chronic illness, and fatigue. However, rather than perceiving these changes as purely limiting, participants demonstrate a process of adaptive adjustment, where they modify their engagement in ecological activities according to their physical capacity. For instance, participants mention reducing heavy labour, focusing on lighter tasks, or working for shorter durations, indicating a flexible negotiation with ageing rather than withdrawal.

Interpretatively, this reflects a shift from a deficit-oriented understanding of ageing to an adaptive and resilience-oriented perspective. Older adults are not disengaging from activity; instead, they are redefining the nature and intensity of their participation. This aligns with the concept of selective optimization with compensation (Baltes & Baltes, 1990), where individuals adjust their goals and strategies to maintain functioning despite physical decline.

From a theoretical standpoint, this subtheme is strongly connected to Successful Ageing Theory (Rowe & Kahn, 1997), which emphasizes the importance of maintaining functional ability and active engagement despite ageing-related changes. It also resonates with Continuity Theory (Atchley, 1989), where individuals strive to maintain consistency in activities and roles by adapting them to current capacities.

In terms of well-being, this adaptive engagement plays a crucial role in preserving physical and psychological health. By continuing to participate in ecological activities at a manageable level, older adults maintain mobility, prevent functional decline, and sustain a sense of competence. The ability to adjust rather than withdraw also protects against feelings of helplessness and dependency, which are often associated with ageing.

Moreover, this adaptive approach fosters self-efficacy, as individuals perceive themselves as capable of managing their limitations. This perception enhances confidence and contributes to overall life satisfaction.

Thus, ecological engagement provides a flexible and inclusive platform where older adults can navigate physical decline while maintaining activity, dignity, and well-being, reinforcing the idea that ageing is not merely a process of loss but also one of adaptation and continuity.

5.8.2 Ecological Activities as a Pathway to Successful Ageing through Adaptive Coping

The participants' narratives further reveal that ecological engagement played an important role in helping them adapt to major life transitions associated with ageing. Experiences such as retirement, changes in family responsibilities, and the slowing pace of everyday life required participants to reorganise their daily routines and redefine their sense of purpose. Rather than viewing these transitions as periods of decline or inactivity, participants described farming and other nature-based activities as meaningful engagements that enabled them to adjust positively to changing circumstances. Their experiences indicate that ecological engagement supported adaptive coping by providing continuity, routine, and opportunities for purposeful participation during later life.

"At first, I was afraid that suddenly losing my job would create a big void. That is why I continued at the college for another twelve years. But when I fully retired, turning to farming and public service made that transition easier." (Case 4). "Army life was very disciplined and busy. Now life is very calm. Earlier much of my energy was directed towards work and travel, but now farming and time with my grandchildren occupy an important place in everyday life." (Case 6). "After retirement, I got more time, and then I began to give more attention to farming. It has been twenty-seven years since retirement, and throughout much of this period I have remained actively involved in agriculture." (Case 5).

The participants' experiences illustrate that ecological engagement became an important resource for adapting to the transitions of later life. Farming provided continuity and purpose after retirement while helping participants reorganise their daily lives in meaningful ways. Rather than experiencing retirement as a period of inactivity or loss, participants described ecological engagement as supporting a positive adjustment to changing life circumstances and enabling them to remain active, productive, and emotionally fulfilled.

Discussion

The findings strongly indicate that ecological activities contribute to successful ageing by promoting active engagement and effective coping mechanisms. Participants describe how involvement in farming or gardening helps them remain physically active,

mentally alert, and emotionally balanced. These activities are not merely routine tasks but are perceived as meaningful engagements that sustain their overall well-being.

Interpretatively, this reflects an active ageing paradigm, where older adults continue to participate in productive and meaningful activities, thereby enhancing their quality of life. Ecological engagement provides a structured context for maintaining activity, which is essential for both physical health and psychological resilience.

From a theoretical perspective, this subtheme aligns with Successful Ageing Theory (Rowe & Kahn, 1997), which identifies three key components: low probability of disease, high cognitive and physical functioning, and active engagement with life. Ecological activities contribute to all three components by promoting physical exercise, cognitive involvement, and social interaction.

Additionally, this subtheme resonates with Coping Theory (Lazarus & Folkman, 1984), as participants use ecological engagement as a strategy to manage stress, illness, and life transitions. The act of working with nature provides both problem-focused coping (through productive engagement) and emotion-focused coping (through relaxation and satisfaction).

In terms of well-being, this active engagement enhances holistic health, encompassing physical, mental, and social dimensions. It reduces the risk of chronic illness, improves mood, and fosters a sense of purpose. The continuity of activity also prevents the stagnation often associated with ageing, thereby promoting vitality and life satisfaction.

Furthermore, ecological engagement supports positive ageing identity, where individuals perceive themselves as active contributors rather than passive dependents. This positive self-perception is crucial for maintaining dignity and self-esteem in later life.

Thus, ecological activities serve as a multidimensional coping resource, enabling older adults to age successfully by maintaining activity, resilience, and a strong sense of purpose, thereby significantly enhancing their well-being.

5.8.3 Ecological Engagement as a Substitute for Occupational Identity and Role Continuity

Another important finding emerging from the participants' narratives is that ecological engagement enabled them to maintain a meaningful sense of identity and continuity following retirement and changes in occupational roles. Participants described farming

not merely as an activity undertaken after retirement but as a role that preserved their sense of usefulness, productivity, and self-worth. Through continued involvement in agriculture, they were able to replace former occupational responsibilities with meaningful ecological roles that sustained their personal identity and allowed them to remain actively engaged in everyday life.

"At present, those who work in agriculture are in a situation where they are not valued. When people ask, 'What is your occupation?', many hesitate and say they are unemployed. But I do not say that. I say that agriculture is my main source of income." (Case 9). "When I was working at the college, life was amidst files and accounts. Now most of my time is in the soil and in nature." (Case 4). "After retirement, I gradually became more involved in church-related responsibilities and agricultural work. Over time, farming evolved into a regular part of everyday life rather than an occasional activity." (Case 5).

The participants' narratives indicate that ecological engagement provided continuity in personal identity during later life by replacing occupational roles with meaningful ecological responsibilities. Farming enabled participants to continue perceiving themselves as productive individuals who contributed to their households and communities. Rather than experiencing retirement as a loss of identity, participants reconstructed their roles through ecological engagement, preserving continuity, self-worth, and a sense of purpose.

Discussion

The transition from active employment to retirement often leads to a loss of occupational identity, which can create a sense of void and purposelessness. The findings reveal that ecological engagement serves as an effective substitute for occupational roles, enabling older adults to reconstruct their identity in meaningful ways. Participants, particularly those who had formal employment, describe how farming or gardening became central to their daily lives after retirement.

Interpretatively, this reflects a process of role replacement and identity reconstruction, where individuals replace lost work roles with alternative meaningful activities. Ecological engagement provides structure, responsibility, and a sense of productivity, which are essential components of occupational identity.

From a theoretical standpoint, this subtheme aligns with Role Theory (Biddle, 1986), which suggests that individuals derive identity and meaning from their social roles. The loss of occupational roles can lead to role loss and identity crisis; however, the adoption of new roles through ecological engagement mitigates this effect. It also connects with Continuity Theory (Atchley, 1989), as individuals maintain continuity in their sense of self by engaging in activities that reflect their past interests and values.

In terms of well-being, the replacement of occupational identity with ecological roles enhances psychological stability and self-worth. It prevents the sense of emptiness and loss often associated with retirement, thereby reducing the risk of depression and disengagement.

Moreover, ecological roles provide opportunities for achievement and recognition, as individuals see the tangible outcomes of their efforts. This reinforces a sense of competence and contribution, which is essential for maintaining dignity in later life.

Thus, ecological engagement functions as a meaningful substitute for occupational identity, enabling older adults to navigate retirement transitions while preserving purpose, identity, and overall well-being.

5.8.4 Ecological Engagement as a Continuity Mechanism and Source of Life Meaning

A particularly significant aspect emerging from the participants' narratives is that ecological engagement provided continuity across different stages of life while serving as a lasting source of personal meaning. Participants frequently described farming as an activity that had accompanied them from childhood into later adulthood, creating a continuous connection between their past experiences and present lives. Rather than representing a temporary occupation or hobby, ecological engagement became an enduring part of their identity and worldview. Their narratives suggest that sustained interaction with nature enabled them *to experience fulfilment, purpose, and a sense of harmony throughout the ageing process.*

"You can make money, but mental happiness is not something you can get by paying money." (Case 5). "From my childhood onwards, I grew up seeing and hearing about farming. Ours is a traditionally farming family. Agriculture became embedded in everyday life long before adulthood and has continued into later life without interruption." (Case 1). "At this age, living in tune with nature is a great comfort. When

doing animal care and farming, you get a sense of vitality. Fresh air and the sights of nature give peace to the mind." (Case 6).

The participants' experiences demonstrate that ecological engagement provided a continuous thread connecting different stages of their lives. Farming was experienced not only as productive work but also as a meaningful way of living that preserved lifelong values, traditions, and personal identity. Through sustained engagement with nature, participants continued to experience fulfilment, emotional comfort, and a sense of purpose, indicating that ecological activities functioned as an enduring source of meaning throughout the ageing process.

Discussion

The findings highlight that ecological engagement serves as a powerful continuity mechanism, enabling older adults to maintain a sense of purpose and meaning in life. Participants often describe farming as an integral part of their life journey, one that continues into old age despite changing circumstances. This continuity reflects a deep connection between past experiences and present activities.

Interpretatively, this subtheme underscores the importance of life-course continuity, where individuals seek to preserve their identity, values, and routines across different stages of life. Ecological engagement provides a stable and familiar framework that supports this continuity, thereby reducing the psychological disruption associated with ageing and life transitions.

From a theoretical perspective, this aligns strongly with Continuity Theory (Atchley, 1989), which posits that individuals strive to maintain internal and external continuity by preserving consistent patterns of behavior, relationships, and self-concept. It also resonates with Meaning-Making Theory, where individuals derive a sense of purpose through engagement in meaningful activities.

In terms of well-being, the presence of purpose is a critical determinant of eudaimonic well-being, which focuses on fulfillment, personal growth, and life meaning. Ecological activities provide a sense of direction and motivation, enabling older adults to remain engaged with life.

Furthermore, this continuity fosters psychological resilience, as individuals are better able to cope with challenges when they have a stable sense of identity and purpose. The

ability to find meaning in everyday activities enhances life satisfaction and reduces existential distress.

Thus, ecological engagement acts as a bridge between past and present, sustaining purpose, identity, and meaning in later life, thereby significantly contributing to the holistic well-being of older adults.

5.9 THEME 7: ENVIRONMENTAL AWARENESS AND EXPERIENCED ECOLOGICAL CHANGE

Environmental awareness is increasingly recognised as an important dimension of sustainable living and human well-being, particularly among individuals whose everyday lives are closely connected with the natural environment. People who engage continuously in agriculture and other nature-based activities develop a deep understanding of ecological processes through long-term observation, practical experience, and interaction with the environment. This experiential knowledge enables them to recognise subtle changes in climate, rainfall patterns, soil conditions, biodiversity, and seasonal cycles, thereby shaping their perceptions of environmental stability and ecological sustainability. Such ecological awareness extends beyond scientific knowledge and is rooted in lived experience, accumulated wisdom, and everyday interaction with nature.

In recent decades, environmental changes associated with climate variability, biodiversity loss, deforestation, changing agricultural practices, and increasing human intervention have altered the ecological systems on which rural livelihoods depend. These changes have significant implications not only for agricultural productivity but also for the overall well-being of individuals whose lives remain closely connected with the natural environment. Environmental degradation influences livelihood security, food production, physical activity, emotional well-being, and perceptions of the future, making ecological change an important concern in the experience of ageing.

Within the context of the present study, this theme explores how older adults perceive and interpret environmental changes through their long-standing ecological engagement. It examines their awareness of changing climatic conditions, environmental degradation, and shifts in agricultural practices, while also highlighting how these experiences influence their understanding of nature, agriculture, and sustainable living.

SUBTHEMES

5.9.1 Perceived Instability in Weather Patterns and its Impact on Everyday Life

One of the major concerns emerging from the participants' narratives is the increasing unpredictability of weather patterns and the resulting challenges experienced in everyday agricultural life. Participants described noticeable changes in rainfall, temperature, seasonal cycles, and other climatic conditions that had gradually altered the rhythm of traditional farming. These environmental changes affected not only agricultural productivity but also the planning and organisation of daily activities. Their experiences suggest that the uncertainty associated with changing weather conditions has become an integral part of agricultural life, requiring continuous adaptation while creating concerns regarding the sustainability of farming practices.

"There is no stable weather anymore. Frost increases and decreases, rain, intense heat—all these adversely affect the crops very much. This badly affects traditional farming." (Case 2). "Reduced rainfall, prolonged heat, and unseasonal rains have become major difficulties affecting agriculture." (Case 6). "The conditions, farming practices, and soil that existed in my childhood are not what we have now after these sixty-four years. Everything has changed." (Case 9).

The participants' experiences indicate that climatic instability has become a significant aspect of their ecological experiences. Through long-term involvement in agriculture, they observed considerable changes in seasonal patterns, rainfall, and temperature, which influenced both farming practices and everyday life. Their narratives reflect an awareness that environmental conditions have become increasingly unpredictable, requiring constant adjustment while creating uncertainty regarding agricultural productivity and the future of traditional farming.

Discussion

The participants' narratives vividly capture a growing awareness of climate variability and environmental instability, particularly in relation to unpredictable rainfall, excessive heat, and seasonal irregularities. Many participants compare present conditions with their earlier life experiences, noting that "there is no stable weather anymore" and that traditional seasonal rhythms have been disrupted. This reflects a lived experience of climate change, where environmental transformations are not abstract concepts but directly observable realities affecting daily life.

Interpretatively, this awareness indicates a temporal consciousness, where older adults draw upon their long-term experiential knowledge to interpret ecological changes. Their

life-course perspective enables them to identify deviations from previously stable environmental patterns, thereby positioning them as valuable repositories of ecological knowledge. However, this awareness is also accompanied by a sense of uncertainty and vulnerability, as unpredictable weather directly impacts agricultural productivity and livelihood security.

From a theoretical standpoint, this subtheme aligns with Eco-psychology (Roszak, 1992), which emphasizes the deep interconnection between human well-being and environmental health. Environmental instability disrupts this connection, leading to psychological distress. It also resonates with Environmental Stress Theory, which suggests that environmental changes can act as stressors, affecting both mental and physical health.

In terms of well-being, the perceived instability in weather patterns has multidimensional implications. Physically, it affects the success of cultivation, thereby influencing food security and income. Psychologically, uncertainty regarding crop outcomes generates stress and anxiety, particularly among those who depend on agriculture for sustenance. Socially, it may disrupt traditional farming practices that are based on predictable seasonal cycles.

At the same time, this awareness also fosters adaptive thinking, as participants attempt to adjust their practices to changing conditions. This adaptive capacity is crucial for maintaining resilience in the face of environmental challenges.

Thus, this subtheme highlights that environmental instability is not merely an ecological issue but a significant determinant of well-being, influencing the physical, psychological, and social dimensions of older adults' lives.

5.9.2 Human–Wildlife Conflict and Ecological Threats to Livelihood and Emotional Stability

Another important aspect emerging from the participants' narratives is the growing challenge posed by human–wildlife conflict and its impact on agricultural life. Participants described increasing damage to crops caused by wild animals, particularly in rural and high-range areas where farming is closely connected with surrounding forest ecosystems. These encounters were perceived not only as threats to agricultural production and livelihood but also as sources of frustration, uncertainty, and emotional distress. The participants' experiences suggest that ecological imbalance has intensified

the interaction between wildlife and cultivated land, creating additional challenges for those who continue to depend on agriculture in later life.

"Living in a high-range region, frequent damage caused by wild animals has become one of the major problems affecting our farming." (Case 1). "Wild boar, porcupine, and mountain squirrels cause great trouble for farmers. Because of that, many people do not engage in farming." (Case 2).

The narratives illustrate that human–wildlife conflict has become an important concern influencing agricultural experiences in later life. Participants described repeated crop damage and increasing uncertainty resulting from wildlife intrusion, which affected both agricultural productivity and their emotional well-being. These experiences demonstrate that environmental challenges extend beyond climatic changes and include ecological imbalances that directly influence the sustainability of farming and the everyday lives of older adults.

Discussion

The participants frequently identify attacks by wild animals, such as wild boars, porcupines, and other species, as a major challenge affecting their ecological engagement. These encounters result in the destruction of crops, leading to both economic loss and emotional distress. The narratives reflect a sense of frustration and helplessness, as participants struggle to protect their produce despite continuous efforts.

Interpretatively, this subtheme reflects a broader issue of human–environment conflict, where the boundaries between natural habitats and human settlements are increasingly blurred. The expansion of human activity into forested areas, coupled with ecological imbalance, has intensified these conflicts. For older adults, who invest significant time and effort in cultivation, the loss of crops represents not only financial damage but also a loss of emotional investment and personal achievement.

From a theoretical perspective, this aligns with Human Ecology Theory, which examines the dynamic relationship between humans and their environment. It also resonates with Stress and Coping Theory (Lazarus & Folkman, 1984), as individuals must continuously cope with unpredictable and uncontrollable environmental threats.

In terms of well-being, the impact of human–wildlife conflict is profound. Economically, it reduces the returns from agricultural activities, thereby affecting financial security. Psychologically, repeated crop destruction leads to frustration, stress,

and sometimes a sense of futility. This can discourage continued engagement in farming, which in turn affects physical activity levels and social participation.

However, the participants' continued involvement despite these challenges reflects resilience and commitment. Their persistence indicates that ecological engagement is deeply meaningful, extending beyond economic considerations.

Additionally, this subtheme underscores the need for institutional and policy support, as individual efforts are often insufficient to address such large-scale environmental challenges.

Thus, human–wildlife conflict emerges as a critical stressor that affects the sustainability of ecological engagement and, consequently, the well-being of older adults, highlighting the need for integrated ecological and social interventions.

5.9.3 Ecological Consciousness and Experiential Environmental Knowledge

The participants' narratives further demonstrate a deep awareness of environmental processes developed through years of direct interaction with nature. Their understanding of environmental change was not based on formal scientific knowledge but on long-term observation, practical experience, and continuous involvement in agriculture. Participants reflected on changes in forests, soil, rainfall, cultivation practices, and the increasing use of chemicals, comparing present conditions with those experienced during earlier stages of life. Their experiences reveal an ecological consciousness grounded in lived experience, enabling them to recognise environmental changes and reflect upon their implications for agriculture and sustainable living.

"When the trees in the forest were cut down, we experienced a significant reduction in rainfall." (Case 3). "When I was a child, all the ploughing of the fields was done by bullocks. Now everything is mechanised and full of chemicals. The agricultural world I experienced in my childhood no longer exists in the same form." (Case 9).

The participants' experiences demonstrate that long-term ecological engagement fostered a strong awareness of environmental change and its relationship with agricultural life. Through continuous observation and practical involvement, they developed an experiential understanding of the connections between forests, rainfall, soil, and farming practices. Their narratives reflect an ecological consciousness that extends beyond agricultural production and highlights a broader concern for environmental sustainability and the preservation of traditional ecological knowledge.

Discussion

Participants express significant concern regarding environmental degradation, including declining soil fertility, increased use of chemical fertilizers, and reduction in biodiversity. They note that traditional crops are disappearing, and the quality of soil and produce has deteriorated over time. This reflects a perception of long-term ecological decline, which threatens the sustainability of agricultural practices.

Interpretatively, this subtheme highlights a shift from traditional, sustainable farming practices to more intensive and chemically dependent methods, which have adverse ecological consequences. Older adults, having witnessed this transition over decades, articulate a sense of loss, not only of environmental quality but also of cultural practices associated with traditional agriculture.

From a theoretical standpoint, this aligns with Sustainability Theory, which emphasizes the need for balanced use of resources to ensure long-term ecological health. It also connects with Eco-psychology, where environmental degradation is seen as a source of psychological distress due to the disruption of the human–nature relationship.

In terms of well-being, environmental degradation has both direct and indirect effects. Physically, the use of chemicals may impact health, while declining soil fertility reduces agricultural productivity. Psychologically, the loss of traditional practices and environmental quality leads to a sense of nostalgia and concern for the future. Socially, it may weaken community practices that were traditionally centered around sustainable farming.

However, participants also demonstrate an awareness of the need for sustainable practices, such as pesticide-free cultivation and organic methods. This awareness reflects a potential for ecological stewardship and adaptation.

Thus, this subtheme underscores that environmental degradation is not only an ecological issue but also a threat to cultural continuity, identity, and well-being. It highlights the importance of promoting sustainable practices that support both environmental health and the holistic well-being of older adults.

5.10 THEME 8: STRUCTURAL CHANGES AND DECLINING SUSTAINABILITY OF AGRICULTURE

Agriculture is shaped not only by individual effort and ecological conditions but also by broader structural, economic, and policy environments that influence its sustainability

and long-term viability. Over recent decades, the agricultural sector has undergone significant transformations due to changing labour patterns, urbanisation, market fluctuations, rising production costs, climate-related uncertainties, and shifts in public attitudes towards farming. These structural changes have altered traditional agricultural systems and created new challenges for individuals who continue to depend on agriculture as a source of livelihood, identity, and everyday engagement. Consequently, the sustainability of agricultural practices is increasingly determined by factors that extend beyond the control of individual farmers.

For older adults who remain actively engaged in ecological activities, these structural transformations have important implications. The continuation of farming in later life depends not only on personal motivation and physical capacity but also on the availability of labour, access to institutional support, fair market opportunities, environmental stability, and the willingness of younger generations to participate in agriculture. Changes in these broader systems can influence the ability of older adults to sustain ecological engagement, preserve traditional farming practices, and continue deriving physical, psychological, and social benefits from agriculture. As agriculture becomes increasingly affected by external pressures, maintaining meaningful ecological engagement requires adaptation to evolving social, economic, and environmental realities.

Within the context of the present study, this theme explores the broader structural factors that influence ecological engagement among older adults. It examines the challenges associated with labour shortages, changing market conditions, institutional support, and declining intergenerational participation in agriculture, highlighting how these structural transformations shape the sustainability of agriculture and the continued engagement of older adults in nature-based activities.

5.10.1 Labour Shortage and Decline of Work Ethic in Agricultural Sector

One of the major structural challenges emerging from the participants' narratives is the increasing shortage of agricultural labour and the declining availability of committed workers. Participants explained that farming has become increasingly difficult due to the limited availability of reliable labourers who are willing to engage in agricultural work. Alongside the shortage of workers, participants also expressed concerns regarding changing attitudes towards agricultural labour, describing a decline in commitment, responsibility, and sincerity among those who remain available. These challenges

affected the timely completion of farming activities and created additional burdens for older adults who continued to remain actively engaged in agriculture.

"One major difficulty we face nowadays is the shortage of committed labourers. Sincerity towards agricultural work is becoming less common. Rising wage rates also create additional pressure." (Case 1). "We cannot get good workers. This is one of the greatest problems we face in farming today." (Case 3). "Earlier there was more work, but there were people at home to do it. Now there is still a lot of work, but there is a shortage of people to do it or help. Finding workers has become increasingly difficult." (Case 8).

The participants' experiences indicate that labour shortage has become a significant structural challenge affecting the continuity of agriculture. Limited availability of workers, together with concerns regarding declining work commitment, has increased the burden on older adults who continue to engage in farming. Their narratives suggest that these changes not only affect agricultural productivity but also influence the sustainability of ecological engagement in later life.

Discussion

A dominant concern across participants' narratives is the acute shortage of reliable and committed labour in agriculture. Participants repeatedly note that "good workers are not available," and even when workers are hired, there is a perceived decline in sincerity and work ethic. This shift reflects a broader transformation in rural labour dynamics, where younger generations increasingly move away from agriculture toward more stable and less physically demanding occupations.

Interpretatively, this indicates a process of structural disintegration of traditional agrarian labour systems,

where earlier forms of collective labour, family-based farming, and community participation have significantly declined. For older adults, who depend on labour support due to age-related physical limitations, this shortage becomes a critical barrier to sustaining agricultural practices.

From a theoretical standpoint, this subtheme aligns with Modernization Theory, which explains the transition from agrarian economies to industrial and service-based economies, leading to a decline in traditional occupations like farming. It also connects

with Political Economy of Ageing, which highlights how macro-level structural changes influence the lived experiences and opportunities of older adults.

In terms of well-being, the lack of labour directly impacts physical, psychological, and social dimensions. Physically, older adults are forced to take on tasks beyond their capacity, increasing the risk of fatigue and health issues. Psychologically, the inability to manage agricultural work effectively leads to frustration, stress, and a sense of helplessness. Socially, the decline in labour networks reduces opportunities for interaction and cooperation, thereby weakening community bonds.

Moreover, this labour shortage threatens the continuity of ecological engagement, which is a key source of well-being identified in this study. When older adults are unable to sustain farming activities due to lack of support, they risk losing not only a livelihood but also a meaningful source of identity and engagement.

Thus, this subtheme highlights that labour scarcity is not merely an economic issue but a structural challenge that undermines the well-being and active ageing of older adults, necessitating policy interventions and community-based solutions.

5.10.2 Policy Gaps, Bureaucratic Challenges and Misuse of Agricultural Subsidies

Another important structural issue reflected in the participants' narratives relates to their experiences with institutional support systems and agricultural policies. Although some participants acknowledged receiving assistance from government agencies and local institutions, others described bureaucratic procedures, unequal access to benefits, and the misuse of subsidy schemes as significant challenges. Their experiences suggest that while institutional support has the potential to strengthen agriculture, administrative complexities and inconsistencies often reduce its effectiveness for genuine cultivators.

"It is easier to work in the field than to spend time running around government offices and completing all the formal procedures." (Case 3). "People engage in fraud to obtain subsidy money, but genuine farmers do not receive the benefits they deserve. Improving crop prices would support farmers more effectively than increasing subsidies." (Case 3). "We maintain good relationships with the Agricultural Office and receive subsidies through the Panchayat and government schemes for crops such as banana and tapioca." (Case 1).

The narratives demonstrate that participants experienced institutional support in different ways. While some benefitted from government schemes and maintained

positive relationships with agricultural departments, others expressed dissatisfaction with bureaucratic procedures and the unequal distribution of benefits. These contrasting experiences highlight the need for more accessible, transparent, and farmer-centred institutional support systems to strengthen the sustainability of agriculture.

Discussion

Participants express critical perspectives on the role of government policies and institutional support

systems, particularly highlighting issues such as bureaucratic inefficiencies, lack of accessibility, and misuse of subsidies. Some participants perceive that subsidies do not reach genuine farmers, while others feel that engaging with institutional processes is time-consuming and unproductive.

Interpretatively, this reflects a disconnect between policy frameworks and ground-level realities, where institutional mechanisms fail to effectively address the needs of small-scale and elderly farmers. The perception of corruption or misuse further erodes trust in these systems, discouraging participation and limiting access to potential benefits.

From a theoretical perspective, this subtheme aligns with Structural Functionalism, where institutions are expected to support societal functioning; however, when they fail, dysfunction arises. It also connects with Political Economy Theory, which critiques how power dynamics and resource distribution affect marginalized groups, including older farmers.

In terms of well-being, inadequate institutional support has significant implications. Economically, it limits access to financial assistance and resources that could sustain agricultural activities. Psychologically, the perceived injustice and inefficiency contribute to frustration and disillusionment. Socially, it reduces engagement with formal networks, potentially isolating older adults from broader support systems.

Furthermore, the lack of effective policy implementation undermines the sustainability of ecological engagement, which is central to the well-being of participants. Without institutional backing, older adults are left to navigate challenges independently, increasing their vulnerability.

However, participants also demonstrate resilience by relying on informal networks and personal initiative, indicating a bottom-up approach to coping. This highlights the importance of strengthening community-based systems alongside formal institutions.

Thus, this subtheme underscores the need for inclusive, transparent, and accessible policy frameworks that recognize the contributions of older farmers and support their continued engagement, thereby enhancing their well-being and sustaining ecological practices.

5.10.3 Lack of Fair Pricing and Economic Insecurity in Agriculture

The participants' narratives further reveal that economic insecurity remains one of the major structural constraints affecting agriculture. Many participants expressed concern regarding low market prices, increasing production costs, and declining economic returns from farming. Although ecological engagement continued to provide personal satisfaction and well-being, participants explained that financial uncertainty often discouraged agricultural involvement and threatened the long-term sustainability of farming. Their experiences suggest that the economic challenges faced by cultivators extend beyond individual effort and are closely linked to wider market conditions.

"Farmers are not getting a fair price for anything. Rising fodder costs, natural disasters, and the shortage of workers make farming increasingly difficult." (Case 2). "Production costs have increased substantially over time while market prices remain very low. This creates great pressure for cultivators." (Case 6). "Unlike in the past, today it is not possible to live depending solely on agriculture." (Case 9).

The participants' accounts indicate that economic challenges have become a significant barrier to sustaining agricultural activities. Low prices, increasing production costs, and unstable market conditions reduced the financial viability of farming despite continued personal commitment towards agriculture. Their experiences demonstrate that economic sustainability remains an essential factor influencing the future of ecological engagement among older adults.

Discussion

A recurring issue in the narratives is the lack of fair pricing for agricultural produce, which significantly affects the economic sustainability of farming. Participants express dissatisfaction with market conditions, noting that production costs have increased while selling prices remain low. This imbalance creates a situation where agriculture is no longer a viable primary source of income.

Interpretatively, this reflects a market-driven marginalization of small-scale farmers, where global and national economic forces disadvantage local producers. The entry of

imported agricultural products and fluctuating market prices further exacerbate this issue, reducing the competitiveness of local farming.

From a theoretical standpoint, this subtheme aligns with Political Economy of Agriculture, which examines how market structures and policies influence agricultural practices and livelihoods. It also connects with Livelihoods Framework (Chambers & Conway, 1992), which emphasizes the importance of sustainable income sources for overall well-being.

In terms of well-being, economic insecurity has direct and indirect effects. Financial instability affects the ability to meet basic needs, access healthcare, and maintain a decent standard of living. Psychologically, it leads to stress, anxiety, and reduced motivation to continue farming. Socially, it may affect the status and recognition of farmers within the community.

However, it is important to note that participants often continue farming despite low economic returns, indicating that ecological engagement holds intrinsic value beyond income generation. The satisfaction derived from self-sufficiency, food security and personal fulfillment partially compensates for economic limitations.

Thus, while economic challenges pose significant barriers, they do not entirely diminish the role of ecological activities in enhancing well-being. Nevertheless, addressing pricing issues is crucial for ensuring the long-term sustainability of agriculture and the well-being of older adults.

5.10.4 Declining Interest of Younger Generation and Threat to Intergenerational Continuity

One of the most emotionally significant concerns expressed by the participants relates to the declining interest of younger generations in agriculture. Participants repeatedly reflected on the gradual reduction in youth participation and expressed concern that traditional agricultural knowledge and ecological practices may not be transmitted to future generations. They viewed this decline as a threat not only to agricultural sustainability but also to the continuity of farming traditions, family livelihoods, and long-established ecological values. Their narratives reveal a shared perception that the future of agriculture depends upon greater intergenerational involvement and renewed interest among younger people.

"The declining interest of the younger generation in agriculture pains us a lot." (Case 1). "The younger generation, which I call the computer generation, does not come into farming now. If this continues, agriculture will increasingly depend on migrant labour." (Case 5). "Especially among children, their inclination towards agriculture is very low." (Case 8).

The participants' experiences illustrate that the declining participation of younger generations has become one of the greatest challenges affecting the continuity of agriculture. They expressed concern that the absence of youth involvement threatens the transfer of agricultural knowledge, family farming traditions, and ecological values across generations. Their narratives suggest that sustaining agriculture in the future requires not only structural support but also renewed intergenerational engagement that encourages younger people to participate in ecological activities and preserve traditional farming practices.

Discussion

Participants express deep concern regarding the declining interest of the younger generation in agriculture, often describing it as a significant threat to the future of farming. Younger individuals are increasingly drawn to education, urban employment, and technology-driven careers, leading to a generational gap in agricultural engagement.

Interpretatively, this reflects a cultural and occupational shift, where agriculture is no longer perceived as a desirable or prestigious occupation. This shift disrupts the intergenerational transmission of knowledge and skills, which has traditionally been a cornerstone of sustainable farming practices.

From a theoretical perspective, this subtheme aligns with Modernization Theory, which explains the transition toward urban and industrial economies. It also connects with Continuity Theory (Atchley, 1989), as the lack of generational continuity threatens the preservation of agricultural identity and practices.

In terms of well-being, the absence of younger participants in agriculture has profound implications for older adults. Practically, it reduces the availability of family-based support, increasing the burden on older individuals. Emotionally, it creates a sense of thought and uncertainty about the future of their land and livelihood. Socially, it weakens the continuity of community practices and shared cultural identity.

Additionally, the lack of youth involvement threatens the sustainability of ecological engagement, which is central to the well-being framework of this study. Without generational renewal, the practices that support physical, mental and social well-being may gradually decline.

However, this concern also reflects a desire for continuity and legacy, where older adults wish to pass on their knowledge and values to future generations. This aligns with Erikson's concept of Generativity, where individuals seek to contribute to the well-being of future generations.

Thus, this subtheme highlights a critical structural challenge that extends beyond individual well-being to encompass cultural sustainability and intergenerational continuity, emphasizing the need for strategies to re-engage youth in ecological activities.

5.11 Conclusion

This chapter presented a detailed thematic analysis of the lived experiences of elderly individuals engaged in ecological activities, with a focus on understanding their contribution to overall well-being. The findings reveal that nature-based engagement is not merely an activity but a deeply embedded life-course identity shaped by socio-cultural upbringing. For many participants, agriculture represents continuity, allowing them to reconnect with their roots and sustain a stable sense of self in later life. This reflects the relevance of Continuity Theory, where past experiences are meaningfully integrated into present practices.

Ecological activities were also found to structure daily life and promote discipline among the elderly. In the absence of formal occupational roles, engagement in farming and gardening provides a purposeful routine, preventing idleness and fostering a sense of productivity. This aligns with Activity Theory, which emphasizes the importance of continued engagement in meaningful activities for successful ageing. Participants' narratives highlight how daily interaction with nature creates a rhythm that sustains both physical and psychological balance.

The study further demonstrates that ecological engagement contributes to multidimensional health benefits. Physically, it functions as an informal form of exercise, helping maintain mobility and vitality despite age-related health conditions. Psychologically, nature serves a therapeutic role by reducing stress, anxiety and

emotional distress. The findings strongly resonate with eco-psychological perspectives, which emphasize the healing potential of human–nature interactions. Additionally, ecological activities help address loneliness, offering emotional comfort and a sense of companionship, particularly among those experiencing isolation or loss.

Socially, ecological engagement fosters community bonding and mutual support. Practices such as sharing produce, exchanging knowledge and cooperative farming enhance social capital and strengthen relationships. At the same time, participants demonstrated awareness of environmental and structural challenges, including climate change, labor shortages and declining youth interest in agriculture. These factors pose threats to the sustainability of ecological practices.

Overall, the chapter establishes that ecological engagement is a holistic mechanism that supports physical health, mental well-being, social connectedness, and a sense of purpose in later life. It provides a strong foundation for understanding ageing through an ecological lens and sets the stage for the discussion of findings and implications in the subsequent chapter.

CHAPTER 6

FINDINGS, RECOMMENDATIONS AND SOCIAL WORK IMPLICATIONS

6.1 Introduction

This chapter presents a comprehensive synthesis of the findings derived from the qualitative exploration of elderly individuals engaged in ecological activities such as farming and gardening. The focus of this chapter is not merely to restate the findings but to interpret them in relation to the broader objective of understanding how ecological engagement contributes to the well-being of older adults. The analysis is grounded in the lived experiences of the participants and is informed by relevant theoretical frameworks, including Activity Theory, Continuity Theory, Eco-psychology and the concept of Successful Ageing.

In the context of this study, ecological engagement emerges as a meaningful and multidimensional process that connects identity, routine, health, and social life. The chapter further develops context-specific recommendations and outlines implications for social work practice, ensuring that they are grounded in the realities of rural Kerala.

6.2 Major Findings of the Study

RESEARCH QUESTION 1: HOW DID OLDER ADULTS BECOME INVOLVED IN GREEN ACTIVITIES?

6.2.1 Early Ecological Socialization Shapes Lifelong Engagement

The study revealed that entry into green activities among older adults was not a consequence of ageing or retirement but the continuation of a lifelong relationship with agriculture established during childhood. Participants consistently described growing up in farming households where agriculture was integrated into everyday family life rather than being viewed as a separate occupation. From an early age, they accompanied parents and grandparents to the fields, observed cultivation practices, cared for livestock, and gradually learned agricultural skills through participation rather than formal instruction. These early experiences became deeply embedded within their everyday lives and shaped their attitudes towards farming throughout adulthood.

Agriculture therefore emerged not merely as an occupation but as an inherited way of life transmitted across generations. The participants frequently associated their

ecological engagement with family traditions and cultural practices, indicating that farming represented continuity with their ancestral heritage. Their narratives demonstrated that ecological knowledge was accumulated through lived experience, observation, and repeated participation over many decades. Consequently, entering into green activities was rarely described as an individual decision; rather, it evolved naturally within the family environment and became an integral part of personal identity.

Another important finding was that childhood exposure created a strong emotional attachment towards nature. Participants recalled positive memories of working alongside parents and grandparents, observing seasonal agricultural cycles, and developing familiarity with the natural environment. These experiences fostered a sense of belonging towards agriculture that continued to influence their behaviour during later life. Even participants who pursued higher education or entered non-agricultural occupations explained that farming remained an inseparable aspect of their lives because of these early experiences.

The study therefore indicates that ecological engagement among older adults is best understood as a life-course process rather than an activity initiated during old age. Family socialisation, cultural traditions, and continuous exposure to agriculture established enduring ecological identities that persisted across different stages of life.

6.2.2 Retirement Strengthened Rather than Initiated Ecological Engagement

The study further revealed that retirement functioned as a period of renewed ecological engagement rather than the beginning of agricultural involvement. Participants who had spent several decades in government service, educational institutions, military service, and other occupations explained that retirement created opportunities to devote greater time and attention to farming activities that had remained personally meaningful throughout life. Rather than replacing previous occupations, agriculture became a continuation of earlier experiences and an important means of maintaining activity after retirement.

Participants explained that retirement initially created uncertainty regarding the use of time and the loss of occupational responsibilities. However, increased engagement in farming enabled them to establish new routines while preserving familiar patterns of living. Ecological activities therefore functioned as a bridge between employment and retirement, reducing feelings of purposelessness and supporting continuity in everyday life.

The findings further suggest that retirement strengthened participants' emotional connection with agriculture by allowing them to engage more regularly in cultivation, gardening, and animal care. Rather than perceiving retirement as withdrawal from productive life, participants viewed this stage as an opportunity to reconnect with ecological practices that had always remained meaningful. Consequently, ecological engagement became an important adaptive mechanism that facilitated positive adjustment during later life.

6.2.3 Agriculture Emerged as a Core Identity Beyond Economic Utility

Another significant finding of the study is that agriculture was perceived primarily as an identity rather than simply a source of livelihood. Although participants acknowledged the economic value of farming, their continued engagement was largely motivated by emotional attachment, cultural values, personal satisfaction, and the desire to remain connected with nature. Farming was consistently described as an inseparable component of who they were, extending beyond financial return

Participants frequently associated agriculture with dignity, usefulness, and family heritage. Their narratives indicated that ecological engagement provided a stable sense of identity even after retirement, changes in family structure, and advancing age. For many participants, farming represented continuity with earlier life experiences and enabled them to maintain meaningful social roles despite changing life circumstances.

The study also found that agriculture contributed to participants' sense of purpose through the production of healthy food, preservation of traditional practices, and stewardship of the natural environment. Consequently, ecological engagement functioned not only as productive work but also as an important expression of personal identity, reinforcing self-worth, continuity, and meaning throughout the ageing process.

RESEARCH QUESTION 2: HOW DO GREEN ACTIVITIES AMONG OLDER ADULTS SUPPORT THEIR PHYSICAL HEALTH AND DAILY ROUTINE?

The findings of the study reveal that green activities contribute significantly to both the physical health and everyday lives of older adults by promoting active living, structured daily routines, and functional independence. Participants consistently described ecological engagement as an integral part of their everyday existence rather than an occasional or recreational activity. Farming, gardening, and animal care were deeply woven into their daily schedules and became central to how they organised their time, maintained physical activity, and continued meaningful engagement in later life. Rather

than perceiving old age as a period of rest or withdrawal, participants viewed ecological engagement as an opportunity to remain physically active, productive, and connected with their environment. The findings further suggest that the health benefits derived from these activities extend beyond physical exercise, influencing daily discipline, adaptive functioning, and overall quality of life.

6.2.4. Nature-Based Activities Become Integrated into Everyday Routine

One of the major findings of the study is that ecological activities form an essential component of the everyday routines of older adults. Participants consistently described highly structured daily schedules organised around farming, gardening, and animal care. Their routines typically began early in the morning with prayer, followed by household responsibilities and ecological activities such as watering plants, inspecting crops, feeding livestock, cleaning animal sheds, weeding, or harvesting vegetables. These activities continued throughout the day and often resumed during the evening, creating a stable and predictable rhythm of living.

The findings indicate that ecological engagement functioned as a temporal organiser that structured participants' daily lives after retirement. Rather than experiencing retirement as an unstructured period characterised by inactivity or boredom, participants replaced occupational routines with meaningful ecological responsibilities. Farming became an organising principle that divided the day into purposeful segments, allowing participants to maintain discipline and regularity. Many participants explained that their day felt incomplete if they were unable to attend to their fields or gardens, reflecting the extent to which ecological activities had become embedded within their everyday routines.

Another important finding is that these structured routines promoted purposeful engagement and prevented passive lifestyles. Participants rarely described spending long periods sitting idle. Instead, they emphasised continuously moving between household responsibilities and ecological tasks, creating an active lifestyle that supported both physical movement and mental alertness. The regularity of these routines also contributed to psychological stability by providing predictability and continuity during later life. Rather than perceiving farming responsibilities as burdensome, participants expressed satisfaction in remaining occupied through meaningful work that allowed them to continue contributing to their households and communities.

The study therefore suggests that ecological engagement functions not merely as productive work but also as a lifestyle practice that structures everyday living. Through regular interaction with nature, participants established disciplined routines that enhanced their sense of purpose, maintained daily activity, and supported successful adjustment to retirement and ageing.

6.2.5. Ecological Activities Promote Functional Physical Health

Another significant finding of the study is that participants viewed ecological engagement as an effective means of maintaining physical health through continuous, moderate, and meaningful physical activity. Unlike formal exercise programmes that require deliberate participation, farming naturally incorporated bodily movement into everyday life through activities such as planting, watering, digging, pruning, weeding, harvesting, carrying produce, and caring for domestic animals. Participants therefore perceived farming itself as a form of exercise that helped them remain physically active without requiring separate fitness routines.

The findings indicate that participants associated ecological engagement with several positive physical outcomes. Many reported experiencing increased stamina, improved appetite, better sleep, enhanced mobility, and greater overall energy as a result of their continued involvement in farming activities. Rather than viewing agricultural work as physically exhausting, participants frequently described it as energising and beneficial for maintaining bodily functioning during old age. The continuous movement involved in ecological activities enabled them to preserve flexibility, coordination, and endurance while avoiding prolonged sedentary behaviour.

An important finding emerging from the study is that ecological engagement promoted functional rather than performance-oriented physical health. Participants were not motivated by achieving fitness goals or improving athletic performance; instead, they valued their ability to remain independent and capable of performing everyday tasks. The physical demands associated with farming allowed them to maintain mobility and continue participating in household responsibilities, thereby reducing dependence on others. Ecological engagement therefore supported healthy ageing by enabling participants to preserve functional capacity and remain actively involved in daily life.

The findings further reveal that participants preferred nature-based physical activity over structured exercise because farming provided immediate purpose and visible outcomes. Activities performed in the fields or gardens simultaneously contributed to

household food production, environmental care, and personal well-being, making physical activity meaningful and sustainable. Consequently, ecological engagement represented a holistic form of health promotion where exercise, productivity, and satisfaction occurred simultaneously.

6.2.6 Ecological Engagement Supports Active Ageing Despite Physical Decline

The study also found that ecological engagement enabled older adults to maintain active lifestyles despite experiencing age-related physical decline and chronic health conditions. Almost all participants acknowledged that ageing had reduced their physical strength compared to earlier years. Many reported living with diabetes, hypertension, arthritis, joint pain, bone-related problems, heart disease, or general age-related fatigue. However, rather than withdrawing completely from farming, participants demonstrated remarkable adaptability by modifying their ecological activities according to their changing physical capacities

The findings indicate that participants consciously adjusted the intensity, duration, and type of agricultural work they performed. Heavy labour was gradually replaced with lighter responsibilities such as watering plants, supervising cultivation, tending vegetables, pruning branches, caring for animals, or monitoring crops. This adaptive approach enabled them to continue participating in meaningful ecological activities while respecting their physical limitation

Another important finding is that participants perceived ecological engagement as reducing the subjective burden of illness. Although farming did not eliminate chronic diseases or physical pain, participants frequently explained that working in the fields distracted them from discomfort and prevented excessive focus on bodily limitations. Rather than allowing illness to dominate everyday life, ecological engagement redirected attention towards productive activity, encouraging continued movement and participation. This shift in attention contributed to greater confidence in managing health conditions and reinforced a sense of capability despite advancing age.

The study further demonstrates that participants did not equate healthy ageing with the absence of illness. Instead, they associated successful ageing with maintaining activity, independence, and meaningful participation despite physical limitations. Ecological engagement therefore functioned as an adaptive strategy that enabled participants to negotiate the realities of ageing while preserving functional ability and personal dignity.

The findings suggest that continued participation in farming supports active ageing by encouraging flexibility, resilience, and ongoing engagement with everyday life.

6.2.7 Nature Regulates Daily Rhythm and Healthy Living

A further important finding of the study is that participants' daily routines were closely synchronised with natural environmental rhythms. Rather than organising their schedules according to artificial timetables, participants planned their activities around sunrise, weather conditions, seasonal variations, rainfall, temperature, and the biological needs of plants and animals. Nature therefore functioned as an important regulator of time, shaping both work patterns and lifestyle practices.

The findings indicate that participants generally preferred beginning agricultural work during the early morning when temperatures were lower and environmental conditions were favourable. Afternoon periods were often reserved for rest or household work before returning to ecological activities during the evening. Such routines reflected an adaptive lifestyle that balanced physical exertion with environmental conditions, thereby reducing unnecessary physical strain while promoting healthy living.

The study also found that regular interaction with nature encouraged healthy behavioural patterns extending beyond agriculture itself. Participants frequently described early rising, regular meal times, sufficient physical movement, exposure to fresh air, and consistent sleeping schedules as natural outcomes of ecological engagement. These behaviours collectively contributed to maintaining physical well-being while establishing a balanced lifestyle during later adulthood.

Another important finding is that participants demonstrated strong awareness of seasonal changes and environmental conditions, adjusting their routines accordingly. Decisions regarding planting, harvesting, irrigation, animal care, and household activities were influenced by weather patterns and ecological processes. This continuous responsiveness to natural environments encouraged flexibility, attentiveness, and environmental awareness while reinforcing participants' connection with the natural world.

Overall, the findings demonstrate that green activities support physical health and everyday life through multiple interconnected pathways. Ecological engagement provides regular physical activity, establishes disciplined daily routines, promotes functional independence, encourages adaptive responses to age-related physical decline, and synchronises everyday living with natural rhythms. Rather than functioning solely

as productive agricultural work, farming and other nature-based activities become comprehensive lifestyle practices that sustain physical vitality, active ageing, and meaningful daily engagement. The findings therefore suggest that ecological engagement represents an important pathway through which older adults maintain health, independence, and quality of life while continuing to lead purposeful and active lives.

RESEARCH QUESTION 3: IN WHAT WAYS DO OLDER ADULTS DESCRIBE THE PSYCHOLOGICAL BENEFITS THEY EXPERIENCE FROM NATURE-BASED ACTIVITIES?

The findings of the study demonstrate that ecological engagement contributes profoundly to the psychological well-being of older adults by serving as a source of emotional stability, mental peace, resilience, and existential fulfilment. Participants consistently described farming, gardening, and other nature-based activities as experiences that extend beyond physical work or economic productivity, functioning instead as meaningful psychological resources embedded within their everyday lives. Interaction with nature enabled participants to regulate emotions, manage stress, cope with personal losses, and maintain a positive outlook despite the challenges associated with ageing. The study further reveals that ecological engagement provides older adults with opportunities to remain emotionally engaged, psychologically active, and mentally fulfilled, thereby enhancing overall well-being. Rather than relying on formal mental health interventions, participants naturally integrated ecological activities into their daily lives as culturally familiar and personally meaningful ways of maintaining emotional balance.

6.2.8 Nature-Based Activities Promote Mental Peace and Emotional Well-being

One of the most significant findings of the study is that ecological engagement serves as an important source of mental peace and emotional well-being among older adults. Participants consistently associated farming and gardening with feelings of calmness, happiness, satisfaction, and inner peace. Spending time with plants, soil, animals, and the natural environment created opportunities for emotional relaxation and provided a temporary escape from the pressures and worries of everyday life. Participants frequently described the simple act of observing plants grow, nurturing crops, or caring for animals as deeply satisfying experiences that generated positive emotions and enhanced their overall quality of life.

The findings indicate that ecological engagement enabled participants to shift their attention away from stress, anxiety, and everyday concerns by directing their focus towards purposeful and enjoyable activities. Nature became a setting where participants experienced emotional comfort without consciously seeking therapeutic outcomes. Many participants emphasised that working in the fields or gardens helped them "forget difficulties," "avoid unnecessary thoughts," or simply experience happiness through the process of cultivation itself. These experiences suggest that ecological engagement creates an emotionally restorative environment that supports positive mental health through regular interaction with living systems.

Another important finding is that participants derived psychological satisfaction not only from the process of farming but also from witnessing the outcomes of their labour. Observing healthy crops, flowering plants, or successful harvests generated feelings of achievement and fulfilment that extended beyond financial value. Participants frequently emphasised that the joy of seeing produce grow or flowers bloom was greater than the monetary returns associated with farming. This indicates that ecological engagement provides intrinsic psychological rewards, reinforcing emotional well-being through experiences of growth, care, and accomplishment.

The study therefore demonstrates that ecological activities contribute to mental well-being by creating opportunities for relaxation, emotional restoration, and positive psychological experiences. Rather than functioning merely as physical work, farming becomes an emotionally meaningful practice that promotes happiness, contentment, and inner peace during later life.

6.2.9 Ecological Engagement Supports Emotional Regulation and Coping

Another major finding of the study is that ecological engagement functions as an effective strategy for emotional regulation and coping with the various life transitions associated with ageing. Participants described using farming and gardening to manage emotional challenges arising from retirement, bereavement, caregiving responsibilities, loneliness, health concerns, and changing family structures. Nature-based activities enabled them to process emotions in constructive ways while maintaining emotional balance during periods of personal difficulty.

The findings indicate that ecological engagement provided participants with opportunities to redirect emotional energy into purposeful activities. Rather than remaining preoccupied with grief, anxiety, or personal worries, participants channelled

their attention towards caring for plants, tending animals, or completing agricultural tasks. This purposeful engagement reduced excessive rumination and created psychological distance from distressing experiences without encouraging emotional avoidance. Participants described feeling calmer, more relaxed, and better able to manage difficult emotions after spending time engaged in farming activities.

A particularly important finding emerging from the study is the role of ecological engagement in helping participants cope with loneliness and social isolation. Participants who had experienced bereavement or whose children had migrated away from home frequently explained that gardening and farming reduced feelings of emptiness by creating meaningful daily responsibilities. Caring for plants and maintaining cultivated spaces transformed periods of solitude into opportunities for productive engagement, thereby reducing emotional vulnerability associated with living alone or experiencing changes in family structure.

The study further found that ecological engagement supported adaptation to retirement by replacing occupational roles with meaningful responsibilities rooted in everyday life. Participants explained that ecological activities prevented feelings of purposelessness following retirement and enabled them to continue contributing to their households and communities. Farming therefore became a positive coping strategy that facilitated adjustment to changing social roles while preserving emotional stability.

Overall, the findings suggest that ecological engagement functions as a culturally embedded coping mechanism through which older adults regulate emotions, adapt to life transitions, and maintain psychological well-being during later life.

6.2.10 Farming Strengthens Psychological Resilience

The study also reveals that long-term ecological engagement contributes significantly to the development of psychological resilience among older adults. Participants consistently described farming as an activity that naturally involves uncertainty, risk, disappointment, and repeated challenges arising from weather conditions, pest attacks, fluctuating markets, and crop failures. Rather than discouraging continued participation, these experiences appeared to strengthen participants' ability to cope with adversity and adapt to changing circumstances.

The findings indicate that participants viewed setbacks as an ordinary part of agricultural life rather than as reasons to abandon farming. Crop failure, unpredictable weather, and environmental challenges were accepted as inevitable aspects of cultivation that

required patience, flexibility, and perseverance. Participants repeatedly emphasised the importance of beginning again after failure, suggesting that farming had gradually taught them resilience through continuous exposure to uncertainty. This process extended beyond agricultural work itself and influenced their broader approach to managing difficulties associated with ageing.

Another important finding is that ecological engagement encouraged participants to develop optimistic attitudes towards future challenges. Rather than dwelling on losses or disappointments, participants demonstrated confidence in their ability to adapt and continue meaningful activities despite changing circumstances. This resilience was reflected not only in responses to farming-related difficulties but also in their ability to cope with chronic illness, retirement, family transitions, and environmental change.

The study therefore suggests that ecological engagement nurtures resilience by encouraging persistence, adaptability, and acceptance of life's uncertainties. The cyclical nature of agriculture, characterised by planting, growth, harvest, loss, and renewal, appeared to shape participants' psychological outlook by reinforcing hope, patience, and the willingness to continue despite setbacks. Such experiences contributed significantly to emotional strength and psychological well-being during later adulthood.

6.2.11 Green Activities Foster Purpose, Meaning, and Psychological Fulfilment

A further significant finding of the study is that ecological engagement provides older adults with a continuing sense of purpose and existential meaning. Participants consistently described farming as an activity that allowed them to remain useful, productive, and connected to life despite advancing age. Rather than perceiving old age as a period of dependency or decline, participants viewed ecological engagement as an opportunity to continue fulfilling meaningful responsibilities while contributing to their families and communities.

The findings indicate that farming strengthened participants' sense of personal value by reinforcing their ability to care for others, produce healthy food, protect the environment, and maintain traditional agricultural practices. Participants frequently expressed satisfaction in knowing that their work continued to benefit family members and future generations. This sense of contribution enhanced self-worth and created a feeling of continued relevance despite retirement and changing social roles.

Another important finding is that ecological engagement fostered continuity between past and present life experiences. Participants frequently described farming as

something that connected them with childhood memories, family traditions, and earlier stages of life. Continuing these familiar activities allowed them to preserve a coherent sense of identity while adapting to the realities of ageing. Ecological engagement therefore became more than an everyday activity; it functioned as an ongoing expression of personal values, cultural heritage, and life purpose.

The study also demonstrates that participants increasingly valued psychological fulfilment over economic gain as they grew older. Many emphasised that the happiness, satisfaction, and peace obtained through farming were more meaningful than financial returns. Nature-based activities therefore represented an important source of intrinsic motivation that enriched participants' emotional lives and contributed to overall life satisfaction

Overall, the findings demonstrate that ecological engagement supports psychological well-being through multiple interconnected pathways. It promotes mental peace, facilitates emotional regulation, strengthens resilience, supports adaptation to major life transitions, and provides older adults with enduring purpose and existential meaning. The psychological benefits experienced by participants were not isolated outcomes but emerged through continuous interaction with nature, purposeful activity, and lifelong ecological engagement. The study therefore suggests that green activities represent an important psychosocial resource that enables older adults to maintain emotional health, psychological stability, and a meaningful sense of self throughout the ageing process.

RESEARCH QUESTION 4: HOW DO GREEN ACTIVITIES INFLUENCE THE SOCIAL WELLBEING OF OLDER ADULTS?

The findings of the study reveal that green initiatives significantly enhance the social functioning of older adults by strengthening interpersonal relationships, promoting mutual support, encouraging community participation, and sustaining social roles during later life. Ecological engagement was not experienced as an isolated or individual activity but as a socially embedded practice that connected participants with their families, neighbours, agricultural workers, farmer groups, and the wider community. Farming, gardening, and other nature-based activities created opportunities for interaction, cooperation, reciprocity, and collective responsibility, thereby fostering a strong sense of belonging and social connectedness. The study further indicates that ecological engagement contributes to social well-being by enabling older adults to remain active participants within their communities while preserving traditional systems

of cooperation and knowledge sharing. At the same time, participants highlighted several structural and social changes that increasingly threaten these community-based ecological relationships.

6.2.12 Ecological Activities Strengthen Social Relationships through Reciprocity and Mutual Support

One of the major findings of the study is that ecological engagement strengthens social relationships by creating opportunities for reciprocity, cooperation, and mutual assistance. Participants consistently described farming as an activity that naturally encouraged interaction with neighbours, friends, workers, and fellow farmers through the exchange of agricultural produce, planting materials, labour, and farming knowledge. Rather than viewing agriculture as an individual pursuit, participants perceived it as a collective activity that depended upon shared experiences and mutual support.

The findings indicate that the practice of sharing vegetables, fruits, seeds, saplings, and other agricultural products formed an important aspect of everyday social life. These exchanges were rarely viewed as economic transactions; instead, they reflected long-standing traditions of generosity, reciprocity, and community solidarity. Participants explained that sharing surplus produce strengthened interpersonal relationships, increased trust among neighbours, and reinforced a culture of helping one another. Agricultural activities also created regular opportunities for informal conversations, exchange of ideas, and emotional support, allowing participants to maintain meaningful relationships within their local communities.

Another important finding is that ecological engagement reduced the likelihood of social isolation by encouraging continuous interaction with people who shared similar interests and experiences. Participants described regularly meeting workers, neighbouring farmers, buyers, and local residents while carrying out agricultural activities. These everyday interactions contributed to a sense of belonging and social inclusion, particularly during later life when formal occupational networks had diminished. The findings therefore demonstrate that ecological engagement functions as an important social resource that strengthens community relationships while enhancing older adults' sense of connectedness and social participation.

6.2.13 Farming Encourages Community Participation and Collective Responsibility

Another significant finding of the study is that ecological engagement promotes active participation in community life by encouraging collective action and shared responsibility. Participants described involvement in farmers' groups, neighbourhood agricultural initiatives, local organisations, church-related activities, and community-based farming programmes that enabled them to remain socially active while contributing to broader community development. These activities provided opportunities to exchange knowledge, discuss agricultural challenges, organise collective farming initiatives, and participate in local decision-making processes related to agriculture.

The findings suggest that ecological engagement extends beyond individual cultivation and contributes to the development of community cohesion. Participants frequently referred to the importance of cooperation, unity, and collective effort in sustaining agricultural practices. Working together during cultivation, exchanging farming techniques, and assisting one another during periods of increased labour demand reinforced shared responsibility and strengthened collective identity among community members.

The study also found that participation in ecological activities enabled older adults to continue making meaningful contributions to society despite retirement. Rather than withdrawing from community life, participants remained engaged through environmental stewardship, agricultural production, and voluntary involvement in local organisations. This continued participation reinforced feelings of usefulness, social recognition, and civic responsibility. Ecological engagement therefore supported social functioning by preserving active community roles and strengthening participants' sense of belonging within their local environments.

6.2.14 Ecological Engagement Facilitates Intergenerational Relationships and Knowledge Transfer

A further important finding emerging from the study is that ecological engagement creates opportunities for intergenerational interaction and the transmission of traditional ecological knowledge. Participants described involving children and grandchildren in activities such as watering plants, harvesting vegetables, caring for animals, preparing planting materials, and maintaining household gardens. These shared experiences

enabled older adults to pass on practical agricultural knowledge, environmental values, and cultural traditions to younger family members.

The findings indicate that ecological engagement strengthened emotional relationships within families by creating opportunities for meaningful interaction between generations. Participants expressed satisfaction in teaching younger family members about farming practices and environmental care, viewing these interactions as important for preserving family traditions and agricultural heritage. Such activities also enhanced participants' sense of purpose by allowing them to contribute to the education and development of younger generations.

However, the study also revealed widespread concern regarding declining interest in agriculture among younger people. Participants consistently observed that many young individuals preferred urban employment or professional careers rather than farming, resulting in reduced participation in agricultural activities. This generational shift was perceived as a major challenge to the continuity of traditional farming practices and ecological knowledge. Participants expressed concern that valuable agricultural experience accumulated over decades might gradually disappear if younger generations remained disconnected from farming. The findings therefore suggest that while ecological engagement continues to facilitate intergenerational relationships, changing aspirations among younger people increasingly threaten the long-term sustainability of these knowledge-sharing processes.

6.2.15 Structural and Environmental Changes Influence the Social Sustainability of Ecological Engagement

The study further found that the social benefits derived from ecological engagement are increasingly influenced by broader structural, economic, and environmental challenges. Participants consistently identified labour shortages, rising cultivation costs, declining market prices, bureaucratic barriers, climate variability, and environmental degradation as factors affecting both agricultural sustainability and community participation. These structural constraints not only reduced farming productivity but also weakened traditional systems of cooperation that had historically characterised rural communities.

Labour shortages emerged as one of the most significant concerns affecting social functioning within agricultural communities. Participants explained that increasing difficulties in finding reliable agricultural workers had reduced opportunities for collective farming and mutual labour exchange. Similarly, economic pressures arising

from low prices for agricultural produce discouraged continued farming among many households, limiting opportunities for community interaction through agriculture.

Another important finding is that environmental changes, including unpredictable rainfall, changing climatic conditions, declining soil fertility, and increasing wildlife intrusion, affected participants' confidence in continuing agricultural activities. These challenges generated uncertainty regarding the future of farming while reducing opportunities for sustained community-based ecological engagement.

Despite these challenges, participants continued to demonstrate strong commitment to agriculture because of the social relationships, emotional satisfaction, and sense of community it provided. The findings therefore suggest that sustaining the social benefits of ecological engagement requires not only individual motivation but also supportive institutional policies, environmental protection measures, fair agricultural markets, and initiatives that encourage younger generations to participate in farming.

Overall, the findings demonstrate that green initiatives enhance the social functioning of older adults by strengthening reciprocal relationships, fostering cooperation, encouraging community participation, supporting intergenerational knowledge transfer, and reinforcing a sense of belonging within rural communities. Ecological engagement enables older adults to remain socially active, maintain meaningful interpersonal relationships, and continue contributing to family and community life. However, the sustainability of these social benefits is increasingly influenced by structural and environmental challenges that require broader policy attention. The study therefore highlights that ecological engagement is not only a means of promoting individual well-being but also an important social process that strengthens community cohesion, preserves cultural traditions, and supports healthy and active ageing within the broader social environment.

6.3 Recommendations

The recommendations emerging from this study are grounded in the lived experiences of the participants and are shaped by the rural context of Kerala. Rather than proposing large-scale structural changes, the focus is on strengthening existing systems and practices that already support ecological engagement among older adults.

At the policy level, there is a need to improve the accessibility and effectiveness of existing agricultural support mechanisms. Participants' experiences suggest that while

various schemes are available, their implementation is often inconsistent. Therefore, strengthening local governance systems, simplifying procedures, and ensuring timely access to support can significantly enhance participation among elderly farmers. Additionally, improving local procurement systems to ensure fair pricing for agricultural produce can address economic concerns without requiring major structural reforms.

At the community level, the study highlights the importance of informal networks and collective practices. Participants already engage in mutual support through sharing and cooperation, and these practices can be further strengthened through small-scale community initiatives. Encouraging neighbourhood-level engagement and fostering intergenerational participation can enhance both social cohesion and sustainability of ecological practices.

From a health perspective, integrating ecological activities into existing community health initiatives can provide a sustainable approach to promoting well-being. Local institutions can facilitate opportunities for collective gardening or farming, which can serve both physical and psychological health needs. Additionally, providing context-specific training on sustainable farming practices and climate adaptation can help older adults navigate emerging environmental challenges.

Overall, these recommendations emphasize practicality, cultural relevance, and sustainability, ensuring that interventions are aligned with the lived realities of the participants.

6.4 Social Work Implications

The findings of the present study have significant implications for social work practice by demonstrating that ecological engagement is not merely an agricultural activity but a multidimensional resource that promotes physical, psychological, and social well-being among older adults. The study highlights the potential of nature-based activities as culturally appropriate, low-cost, and sustainable interventions that can be integrated into gerontological social work practice. The findings also reaffirm the importance of adopting a person-in-environment perspective, where individual well-being is understood in relation to family, community, and the natural environment. Accordingly, the implications of the study can be understood at the micro, mezzo, and macro levels of social work practice.

Micro-Level Implications

At the individual level, the findings indicate that ecological engagement can be effectively incorporated as a psychosocial intervention for promoting healthy ageing. Participants consistently described farming, gardening, and other nature-based activities as sources of emotional comfort, mental peace, physical activity, and purpose in life. This suggests that social workers working with older adults can integrate nature-based interventions into casework and counselling processes, particularly for older persons experiencing loneliness, grief, retirement-related adjustment difficulties, social isolation, anxiety, or mild depressive symptoms.

Instead of relying exclusively on conventional counselling approaches, social workers can assess older adults' interests, previous agricultural experiences, and available environmental resources and encourage participation in home gardening, terrace gardening, kitchen gardens, community gardens, or small-scale ecological activities appropriate to their physical abilities. Such interventions may be incorporated into individual care plans as therapeutic activities that enhance emotional regulation, improve self-esteem, and create meaningful daily routines.

The findings also indicate that ecological engagement supports active ageing despite chronic illnesses and physical limitations. Social workers can therefore collaborate with family members and healthcare professionals to design personalised activity plans that encourage safe and adaptive participation in gardening or farming according to an individual's functional capacity. Such interventions promote independence while simultaneously improving physical mobility and psychological well-being

Furthermore, ecological engagement can be incorporated into reminiscence-based interventions with older adults who possess agricultural backgrounds. Discussions centred on farming experiences, environmental changes, and traditional agricultural practices can strengthen personal identity, facilitate life review, and enhance emotional well-being among elderly individuals experiencing role loss or identity disruption following retirement.

Mezzo-Level Implications

At the mezzo level, the study highlights the importance of ecological engagement in strengthening family relationships, community participation, and social support systems. The findings demonstrate that farming naturally creates opportunities for cooperation, reciprocity, knowledge sharing, and collective participation. Social workers can build upon these existing community strengths by organising group-based

ecological programmes that promote social interaction while enhancing overall well-being.

Community social workers can facilitate the formation of senior citizen gardening groups, community farming collectives, therapeutic gardening programmes, and neighbourhood ecological clubs where older adults can participate collectively in cultivation activities. Such initiatives provide opportunities for peer support, reduce social isolation, and strengthen community cohesion while promoting healthy ageing.

The study also reveals the importance of intergenerational relationships in sustaining ecological knowledge. Social workers can design intergenerational programmes that connect older farmers with school children, adolescents, youth clubs, National Service Scheme (NSS) volunteers, National Cadet Corps (NCC), Kudumbashree groups, Balasabhas, and college students. Activities such as traditional farming demonstrations, organic farming workshops, seed preservation initiatives, and environmental awareness programmes can facilitate knowledge transfer while fostering mutual respect between generations. These initiatives can simultaneously reduce age-related stereotypes and address the declining interest of younger generations in agriculture identified by the participants.

The findings further suggest opportunities for institutional social work practice. Social workers employed in old age homes, day care centres, palliative care settings, and community-based rehabilitation programmes can establish therapeutic gardens within institutional settings. Even small kitchen gardens or medicinal plant gardens can encourage meaningful engagement among residents, improve emotional well-being, promote social interaction, and enhance the institutional environment.

Social workers may also collaborate with Krishi Bhavan, Agricultural Department officials, panchayats, farmer producer organisations, and local voluntary organisations to develop community-based ecological programmes that specifically include older adults as active contributors rather than passive beneficiaries.

Macro-Level Implications

At the macro level, the findings highlight several structural barriers that limit the sustainability of ecological engagement among older adults, including labour shortages, climate variability, declining agricultural profitability, inadequate policy support, bureaucratic challenges, and reduced participation of younger generations in agriculture.

These findings point towards an important advocacy role for professional social workers.

Social workers can advocate for age-friendly agricultural policies that recognise older farmers as valuable contributors to food security, environmental conservation, and rural development. Policy advocacy may include promoting simplified access to agricultural subsidies, strengthening extension services for elderly farmers, improving crop insurance accessibility, and encouraging government-supported community gardening initiatives specifically designed for older adults.

The findings also underscore the need for integrating ecological engagement within active ageing policies and gerontological programmes. Social workers can collaborate with government departments, local self-government institutions, Integrated Child Development Services (ICDS), National Programme for Health Care of the Elderly (NPHCE), and Senior Citizens' Welfare Boards to promote nature-based ageing programmes that recognise ecological engagement as a health-promoting intervention.

Given participants' concerns regarding climate change and environmental degradation, social workers have an important role in promoting environmental justice and sustainable community development. Community awareness campaigns on climate-resilient agriculture, organic farming, biodiversity conservation, rainwater harvesting, and environmental stewardship can be facilitated through participatory community organisation approaches. Such interventions not only strengthen environmental sustainability but also improve the long-term well-being of older adults whose lives remain closely connected to agriculture.

At the policy level, social workers can further advocate for the integration of ecological engagement within healthy ageing frameworks, geriatric mental health programmes, and community development policies. Recognising ecological engagement as a protective factor for physical, psychological, and social well-being would enable governments and welfare agencies to design holistic interventions that extend beyond conventional health and welfare services.

6.5 Conclusion

The present study explored the role of ecological engagement in enhancing the well-being of older adults by examining their lived experiences of farming, gardening, and other nature-based activities. Through a qualitative phenomenological approach, the

study sought to understand how ecological engagement influences physical health, psychological well-being, daily routine, and social functioning among older adults. The findings reveal that ecological engagement extends far beyond agricultural production or economic livelihood, emerging instead as a meaningful way of life that contributes to healthy and active ageing. The study demonstrates that participants' engagement with nature is deeply rooted in their childhood experiences, family traditions, and cultural upbringing. Rather than being a new activity adopted after retirement, ecological engagement represents a lifelong identity that continues to shape their everyday lives. Farming and nature-based activities provide structure to daily routines, encourage physical movement, and support functional independence despite age-related health challenges. At the same time, interaction with nature creates opportunities for emotional regulation, mental peace, resilience, and the development of a strong sense of purpose, enabling older adults to adapt positively to retirement, bereavement, and other life transitions.

The findings further highlight that ecological engagement strengthens social relationships through cooperation, reciprocity, intergenerational interaction, and community participation. However, the study also reveals that these benefits are increasingly challenged by broader structural and environmental issues such as climate variability, labour shortages, declining agricultural profitability, and the reduced interest of younger generations in farming. These challenges indicate that while ecological engagement remains an important pathway to well-being, its sustainability depends upon supportive community structures, institutional support, and policy interventions. From a social work perspective, the study reinforces the importance of adopting a holistic person-in-environment approach that recognises the interconnectedness of individuals, communities, and the natural environment. Ecological engagement offers a culturally meaningful and sustainable avenue for promoting healthy ageing by integrating physical activity, psychological well-being, social participation, and environmental responsibility. The findings suggest that nature-based interventions can become valuable components of gerontological social work practice, community development initiatives, and active ageing programmes.

In conclusion, the study affirms that ecological engagement is not merely an agricultural practice but a multidimensional resource that enriches the lives of older adults by promoting dignity, purpose, resilience, and connectedness. Recognising and strengthening this relationship between older adults and the natural environment has the

potential to contribute not only to individual well-being but also to sustainable communities and environmentally conscious ageing. The study contributes to the growing discourse on healthy ageing by demonstrating that well-being in later life is closely linked to meaningful engagement with the natural environment and everyday ecological practices. It also broadens the scope of gerontological social work by highlighting the value of integrating ecological perspectives into practice, policy, and community interventions. The study therefore underscores the need to recognise ecological engagement as an integral component of healthy ageing and as a valuable area for future research, professional social work practice, and policy development.

REFERENECE

- ❖ Adlakha, D., Chandra, M., Krishna, M., Smith, L., & Tully, M. A. (2021). Designing age-friendly communities: Exploring qualitative perspectives on urban green spaces and ageing in two Indian megacities. *International Journal of Environmental Research and Public Health*, 18(4), 1491.
- ❖ Adlakha, D., Murali, K., Geraint, E., & Ryan, W. (2020). Neighbourhood support for active ageing in urban India. *Psychology and Developing Societies*, 32(2), 254–277.
- ❖ American Psychological Association. (2020). *Publication manual of the American Psychological Association* (7th ed.). American Psychological Association.
- ❖ Andreucci, M. B., Russo, A., & Olszewska-Guizzo, A. (2019). Designing urban green-blue infrastructure for mental health and elderly wellbeing. *Sustainability*, 11(22), 6425.
- ❖ Atchley, R. C. (1989). A continuity theory of normal aging. *The Gerontologist*, 29(2), 183–190.
- ❖ Beard, J. R., Officer, A., de Carvalho, I. A., Sadana, R., Pot, A. M., Michel, J. P., Lloyd-Sherlock, P., Epping-Jordan, J. E., Peeters, G. M. E. E., Mahanani, W. R., Thiagarajan, J. A., & Chatterji, S. (2016). The world report on ageing and health: A policy framework for healthy ageing. *The Lancet*, 387(10033), 2145–2154.
- ❖ Beyer, K. M., Kaltenbach, A., Szabo, A., Boger, S., Nieto, F. J., & Malecki, K. M. (2014). Exposure to neighbourhood green spaces and mental health: Evidence from the Survey of the Health of Wisconsin. *International Journal of Environmental Research and Public Health*, 11(3), 3453–3472.
- ❖ Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- ❖ Brymer, E., Davids, K., & Mallabon, L. (2020). Nature-based interventions and health: A review of the evidence. *International Journal of Environmental Research and Public Health*.
- ❖ Capaldi, C. A., Dopko, R. L., & Zelenski, J. M. (2015). The relationship between nature connectedness and happiness: A meta-analysis. *Frontiers in Psychology*, 5, Article 976.

- ❖ Chongxian, C., Luo, W., Kang, N., Li, H., Yang, X., & Xia, Y. (2020). Study on the impact of residential outdoor environments on mood in the elderly in Guangzhou, China. *Sustainability*, 12(9), Article 3933.
- ❖ Collins, R. M., Spake, R., Brown, K. A., Ogutu, B. O., Smith, D., & Eigenbrod, F. (2020). A systematic review of nature-based interventions for improving health and wellbeing. *Landscape and Urban Planning*, 198, 103778.
- ❖ Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage Publications.
- ❖ Denzin, N. K., & Lincoln, Y. S. (2018). *The Sage handbook of qualitative research* (5th ed.). Sage Publications.
- ❖ Erikson, E. H. (1963). *Childhood and society* (2nd ed.). W. W. Norton.
- ❖ Gascon, M., Triguero-Mas, M., Martínez, D., Dadvand, P., Forn, J., Plasència, A., & Nieuwenhuijsen, M. J. (2015). Mental health benefits of long-term exposure to residential green and blue spaces: A systematic review. *International Journal of Environmental Research and Public Health*, 12(4), 4354–4379.
- ❖ Gonzalez, D. S., & Egea-Jimenez, C. (2021). Outdoor green spaces and active ageing from the perspective of environmental gerontology. In *Environmental Gerontology* (pp. 235–251). Springer.
- ❖ Government of India. (1999). *National policy on older persons*. Ministry of Social Justice and Empowerment.
- ❖ Government of India. (2007). *The Maintenance and Welfare of Parents and Senior Citizens Act, 2007*. Ministry of Law and Justice.
- ❖ Government of India. (2016). *Elderly in India 2016*. Ministry of Statistics and Programme Implementation.
- ❖ Government of Kerala. (2021). *Economic review 2021*. State Planning Board.
- ❖ Harilal, K. N., & Eswaran, K. K. (2017). Agrarian question and democratic decentralization in Kerala. *Agrarian South: Journal of Political Economy*, 5(2–3), 292–324.
- ❖ Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. *PLoS Medicine*, 7(7), e1000316.

- ❖ International Institute for Population Sciences (IIPS), National Programme for Health Care of the Elderly (NPHCE), Harvard T. H. Chan School of Public Health, & University of Southern California. (2020). *Longitudinal ageing study in India (LASI), Wave 1, 2017–18: India report*.
- ❖ John, E. E., Astell-Burt, T., Yu, P., Brennan-Horley, C., & Feng, X. (2023). Green space type and healthy ageing in place: An Australian longitudinal study. *Urban Forestry & Urban Greening*, 84, 127903.
- ❖ Kemperman, A. D. A. M., & Timmermans, H. J. P. (2014). Green spaces in the direct living environment and social contacts of the aging population. *Landscape and Urban Planning*, 129, 44–54.
- ❖ Krasny, M. E., Tidball, K. G., & Sriskandarajah, N. (2014). *Greening in the red zone: Disaster, resilience and community greening*. Springer.
- ❖ Moustakas, C. (1994). *Phenomenological research methods*. Sage Publications.
- ❖ Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.). Sage Publications.
- ❖ Rajan, S. I., Mishra, U. S., & Sarma, P. S. (2020). *India's elderly: Burden or challenge?* Rawat Publications.
- ❖ Ribeiro, A., Soares, R., Barbosa, L., Silva, A., Ferreira, R., Terroso, S., et al. (2025). Green environments and healthy ageing: Analyzing the role of green infrastructure in the functional well-being of seniors—A pilot study. *International Journal of Environmental Research and Public Health*, 22(1), 35.
- ❖ Rowe, J. W., & Kahn, R. L. (1997). Successful aging. *The Gerontologist*, 37(4), 433–440.
- ❖ Steffi, P., & S., G. S. (2024). Geriatric horticulture therapy (GhT): An approach to geriatric wellness. *Agricultural Reviews*, 45(4).
- ❖ Twohig-Bennett, C., & Jones, A. (2018). The health benefits of the great outdoors: A systematic review and meta-analysis of greenspace exposure and health outcomes. *Environmental Research*, 166, 628–637.
- ❖ United Nations Population Fund. (2023). *India ageing report 2023: Caring for our elders—Institutional responses*. UNFPA India.
- ❖ United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development*.

- ❖ United Nations. (2023). *World social report 2023: Leaving no one behind in an ageing world*. United Nations.
- ❖ van den Berg, A. E., & Custers, M. H. G. (2011). Gardening promotes neuroendocrine and affective restoration from stress. *Journal of Health Psychology*, 16(1), 3–11.
- ❖ World Health Organization. (2021). *Global report on ageism*. World Health Organization.
- ❖ World Health Organization. (2021). *UN decade of healthy ageing (2021–2030)*.
- ❖ World Health Organization. (2022). *Ageing and health*. World Health Organization.
- ❖ Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage Publications.

APPENDIX

പരിചയം സ്ഥാപിക്കൽ

1. താങ്കളെ കുറിച്ച് കുറച്ച് പറയാമോ?

നിങ്ങളുടെ ജീവിത യാത്രയെക്കുറിച്ച് (ജനനം, വിദ്യാഭ്യാസം, വിവാഹം, മക്കൾ, എവിടെയൊക്കെ താമസിച്ചിട്ടുണ്ട്, ഇവിടെ താമസമാക്കിയിട്ടു എത്രനാളായി, ഇവിടെ വരൻ കാരണം)

ദൈനംദിന ജീവിതം (നിലവിലെ സാഹചര്യങ്ങൾ)

2. ഇപ്പോൾ നിങ്ങളുടെ ഒരു സാധാരണ ദിവസം എങ്ങനെയായിരിക്കും? ചെയ്യുന്ന പ്രവർത്തനങ്ങൾ എന്തൊക്കെയാണ്?
3. മുമ്പത്തെ വർഷങ്ങളുമായി താരതമ്യം ചെയ്യുമ്പോൾ നിങ്ങളുടെ ദിനചര്യയിൽ എന്തെങ്കിലും മാറ്റമുണ്ടായിട്ടുണ്ടോ?

തൊഴിൽവും വിരമിക്കൽ ചരിത്രവും

(ഒന്നിച്ച് ചോദിക്കാതെ, ആവശ്യമുള്ളപ്പോൾ പ്രോബ് ആയി ഉപയോഗിക്കുക)

4. നിങ്ങൾ ചെയ്തിരുന്ന ജോലി എന്തായിരുന്നു എന്ന് പറയാമോ?
5. നിങ്ങൾ എപ്പോൾ വിരമിച്ചു അല്ലെങ്കിൽ ജോലി കുറച്ചു? ആ മാറ്റം നിങ്ങൾക്ക് എങ്ങനെയായിരുന്നു?
6. വിരമിച്ചതിന് ശേഷം സമയം ചെലവഴിക്കാൻ നിങ്ങൾ എന്തൊക്കെയാണ് ആരംഭിച്ചത്?
7. കൃഷിയുമായി ബന്ധപ്പെട്ട അല്ലെങ്കിൽ ഗ്രീൻ ഏജിങ്ങ് സംബന്ധമായ പ്രവർത്തനങ്ങൾ നിങ്ങളുടെ ദിനചര്യയുടെ ഭാഗമായത് എപ്പോൾ മുതൽ?

ഗ്രീൻ ഏജിങ്ങ് സംബന്ധമായ പ്രവർത്തനങ്ങളിലേക്കുള്ള പ്രവേശനം

8. കൃഷിയുമായി ബന്ധപ്പെട്ട പ്രവർത്തനങ്ങളിൽ നിങ്ങൾ മുമ്പേ പങ്കെടുത്തിരുന്നോ, അല്ലെങ്കിൽ പിന്നീട് ആരംഭിച്ചതാണോ? (ചെറുപ്പം മുതൽ/പാരമ്പര്യമായി, ഡോക്ടറുടെ നിർദ്ദേശാനുസരണം, കുടുംബാംഗങ്ങളുടെ പ്രേരണമൂലം)

ഹരിത കൃഷി സംബന്ധമായ പ്രവർത്തനങ്ങളിലെ അനുഭവം

9. കൃഷിയുമായി ബന്ധപ്പെട്ട നിങ്ങൾ സാധാരണയായി ചെയ്യുന്ന പ്രവർത്തനങ്ങൾ എന്തൊക്കെയാണ്?

എല്ലാദിവസവും മുടങ്ങാതെ ചെയ്യുന്നുണ്ടോ?

ഈ പ്രവർത്തനങ്ങൾ സാധാരണയായി എവിടെയാണ് നടക്കുന്നത്?

സാധാരണയായി ആരൊക്കെയാണ് നിങ്ങളോടൊപ്പം പങ്കെടുക്കുന്നത്?

ഈ പ്രവർത്തനങ്ങൾ ചെയ്യാൻ നിങ്ങളെ പ്രേരിപ്പിക്കുന്നത് എന്താണ്? (വിഷരഹിത ഭക്ഷണം, പ്രകൃതിസ്നേഹം)

ശാരീരിക ക്ഷേമം

10. പ്രകൃതിയുമായി ബന്ധപ്പെട്ട പ്രവർത്തനങ്ങൾ നിങ്ങളുടെ ശാരീരിക ആരോഗ്യത്തെ എങ്ങനെ ബാധിച്ചിട്ടുണ്ട് നിങ്ങൾക്ക് തോന്നുന്നു?

നിങ്ങളുടെ ശരീരശക്തിയിലോ/ഉന്മേഷം മാറ്റമുണ്ടായതായി ശ്രദ്ധിച്ചിട്ടുണ്ടോ?

ഈ പ്രവർത്തനങ്ങൾ ചെയ്ത ശേഷം ശാരീരികമായി നിങ്ങൾക്ക് എങ്ങനെ തോന്നുന്നു?

ഇതുമൂലം നടപ്പ്, അല്ലെങ്കിൽ ദിവസേന ചെയ്യുന്ന ജോലി എളുപ്പമായോ ബുദ്ധിമുട്ടായോ?

ഉറക്കം, വിശപ്പ്, അല്ലെങ്കിൽ ആരോഗ്യ പ്രശ്നങ്ങളിൽ മാറ്റമുണ്ടായിട്ടുണ്ടോ?

ഈ പ്രവർത്തനങ്ങൾ വയസ്സായപ്പോൾ സജീവമായി തുടരാൻ സഹായിക്കുന്നു എന്ന് നിങ്ങൾ കരുതുന്നുണ്ടോ? എങ്ങനെ?

മാനസികവൈകാരിക ക്ഷേമം

11. പ്രകൃതിയുമായി ബന്ധപ്പെട്ട പ്രവർത്തനങ്ങൾ നിങ്ങളുടെ ചിന്തകളെയും വികാരങ്ങളെയും എങ്ങനെ സ്വാധീനിക്കുന്നു?

കൃഷി/പുനോട്ടപരിപാലനം എന്നിവയിൽ സമയം ചെലവഴിക്കുമ്പോൾ നിങ്ങൾക്ക് സാധാരണയായി എങ്ങനെ തോന്നുന്നു?

ഈ പ്രവർത്തനങ്ങൾ മാനസിക സമ്മർദ്ദമോ ആശങ്കകളോ കുറയ്ക്കാൻ സഹായിക്കുന്നുണ്ടോ?

നിങ്ങളുടെ മനോഭാവത്തിൽ എന്തെങ്കിലും മാറ്റമുണ്ടായിട്ടുണ്ടോ?

ഇതിന്റെ ഫലമായി ജീവിതത്തിൽ കൂടുതൽ സമാധാനമോ സംതൃപ്തിയോ അനുഭവിക്കുന്നുണ്ടോ?

ബുദ്ധിമുട്ടുള്ള സമയങ്ങളിൽ ഈ പ്രവർത്തനങ്ങൾ നിങ്ങളെ നേരിടാൻ സഹായിക്കുന്നുണ്ടോ? എങ്ങനെ?

സാമൂഹിക ക്ഷേമം

12. മറ്റുള്ളവരുമായി നിങ്ങളുടെ ബന്ധങ്ങളിൽ ഈ ഹരിത കൃഷി സംബന്ധമായ പ്രവർത്തനങ്ങൾ എന്ത് പങ്കാണ് വഹിക്കുന്നത്?

നിങ്ങൾ സാധാരണയായി ഈ പ്രവർത്തനങ്ങൾ ഒറ്റയ്ക്കാണോ, അല്ലെങ്കിൽ മറ്റുള്ളവരോടൊപ്പമാണോ ചെയ്യുന്നത്?

ഇതുവഴിയായി കൂടുതൽ ആളുകളെ കാണുന്നതിന് ഇടയായിട്ടുണ്ടോ ?

ഈ പ്രവർത്തനങ്ങളിലൂടെ പുതിയ സൗഹൃദങ്ങൾ രൂപപ്പെട്ടിട്ടുണ്ടോ?

കുടുംബാംഗങ്ങളുമായും, അയൽപക്കമായും ഉള്ള ബന്ധത്തെ ഇത് ബാധിച്ചിട്ടുണ്ടോ?

ഈ പ്രവർത്തനങ്ങൾ നിങ്ങളെ സമൂഹത്തോട് കൂടുതൽ ബന്ധപ്പെട്ടതായി തോന്നിക്കുന്നുണ്ടോ? എങ്ങനെ?

സാംസ്കാരികവും ഗ്രാമീണവും പശ്ചാത്തലം

13. പ്രാദേശിക പാരമ്പര്യങ്ങളോ ഗ്രാമജീവിതമോ ഈ കൃഷിയുമായി ബന്ധപ്പെട്ട പ്രവർത്തനങ്ങളിൽ നിങ്ങളുടെ പങ്കാളിത്തത്തെ എങ്ങനെ സ്വാധീനിക്കുന്നു?

കൃഷിയുമായി ബന്ധപ്പെട്ട ഏതെങ്കിലും പാരമ്പര്യ പ്രവർത്തനങ്ങൾ നിങ്ങൾ പിന്തുടരുന്നുണ്ടോ?

ഗ്രാമത്തിലെ പരിസ്ഥിതി നിങ്ങളെ സഹായിക്കുന്നുണ്ടോ ?

പഞ്ചായത്തോ അയൽക്കൂട്ടങ്ങളോ മുതിർന്ന പൗര സംഘങ്ങളോ എന്ത് പങ്ക് വഹിക്കുന്നു?

കാലാവസ്ഥ (മഴ, വേനൽ തുടങ്ങിയവ) നിങ്ങളുടെ പ്രവർത്തനങ്ങളെ എങ്ങനെ ബാധിക്കുന്നു ?

തടസ്സങ്ങളും വെല്ലുവിളികളും

14. ഈ ഹരിത കൃഷി സംബന്ധമായ പ്രവർത്തനങ്ങളിൽ പങ്കെടുക്കുമ്പോൾ നിങ്ങൾ നേരിടുന്ന ബുദ്ധിമുട്ടുകൾ എന്തൊക്കെയാണ്?

ആരോഗ്യവുമായി ബന്ധപ്പെട്ട തടസ്സങ്ങൾ

കുടുംബപരമായ നിയന്ത്രണങ്ങൾ

സ്ഥലം അല്ലെങ്കിൽ വിഭവങ്ങളുടെ കുറവ്

സുരക്ഷാ ആശങ്കകൾ

കാലാവസ്ഥ സംബന്ധമായ പ്രശ്നങ്ങൾ

പ്രായവുമായി ബന്ധപ്പെട്ട പരിമിതികൾ

പുതിയ തലമുറ എങ്ങനെയാണു കൃഷി/ പ്രകൃതി സൗഹാർദ പ്രവർത്തനങ്ങളെ സമീപിക്കുന്നത്

മൊത്തത്തിലുള്ള സ്വാധീനത്തെക്കുറിച്ചുള്ള ധാരണ

15. നിങ്ങളുടെ ജീവിതത്തെ മുഴുവൻ പരിഗണിക്കുമ്പോൾ, ഈ കൃഷിയുമായി ബന്ധപ്പെട്ട പ്രവർത്തനങ്ങൾ നിങ്ങളുടെ ക്ഷേമത്തിന് എത്രത്തോളം സഹായകമായിട്ടുണ്ട്?

നിങ്ങളുടെ ജീവിതത്തിൽ എന്തെല്ലാം മാറ്റങ്ങൾ നിങ്ങൾ ശ്രദ്ധിച്ചിട്ടുണ്ട്?

ഏത് മേഖലയിലാണ് കൂടുതൽ പുരോഗതി ഉണ്ടായത് ശാരീരികം, മാനസികം, അല്ലെങ്കിൽ സാമൂഹികം? എന്തുകൊണ്ട്?

ഈ പ്രവർത്തനങ്ങൾ ഇല്ലായിരുന്നെങ്കിൽ നിങ്ങളുടെ ജീവിതം വ്യത്യസ്തമാകുമായിരുന്നോ ?

കൂടുതൽ മുതിർന്നവർ ഇങ്ങനെയുള്ള പ്രവർത്തനങ്ങളിൽ പങ്കെടുക്കാൻ എന്ത് ചെയ്യണം?

സമാപന ചോദ്യങ്ങൾ

16. മുതിർന്നവർക്കായി ഇത്തരം അവസരങ്ങൾ മെച്ചപ്പെടുത്താൻ നിങ്ങൾക്ക് നിർദ്ദേശങ്ങളുണ്ടോ?