

**UNCULTIVATED FOOD FORAGING PRACTICE AMONG
KATTUNAYIKKA COMMUNITY IN WAYANAD**

**MSW DISASTER MANAGEMENT
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ABSTRACT

Uncultivated food foraging constitutes a fundamental component of indigenous food systems, reflecting the intricate relationship between communities and their surrounding ecosystems. For the Kattunayikka community of Wayanad, Kerala, the collection and utilization of wild edible plants, fruits, tubers, mushrooms, honey, and other forest resources represent not only a means of subsistence but also an enduring repository of traditional ecological knowledge shaped through generations of interaction with the forest. Despite its ecological, nutritional, and cultural significance, this knowledge system is increasingly threatened by environmental degradation, changing livelihood patterns, restrictions on forest access, and the gradual erosion of intergenerational knowledge transmission. These transformations underscore the need for systematic documentation and a deeper understanding of indigenous foraging practices within contemporary socio-ecological contexts.

The present study explores the uncultivated food foraging practices of the Kattunayikka community in Wayanad District, with particular emphasis on traditional ecological knowledge, the diversity and utilization of uncultivated food resources, their contribution to household food security, nutrition, and health, their cultural significance, and the challenges influencing the continuity of these practices. The study further examines the mechanisms through which foraging knowledge is transmitted across generations and the adaptive responses adopted by the community in the face of ecological and socio-economic change.

A qualitative descriptive research design was employed to obtain an in-depth understanding of participants' experiences and perspectives. Data were collected through semi-structured interviews and field observations among purposively selected members of the Kattunayikka community possessing extensive knowledge and experience in uncultivated food foraging. The collected data were analysed using thematic analysis to identify recurring patterns, meanings, and themes emerging from participants' narratives.

The study is expected to demonstrate that uncultivated food foraging remains integral to the livelihood strategies, nutritional well-being, cultural identity, and environmental stewardship of the Kattunayikka community. It is also anticipated to reveal that the sustainability of these practices is increasingly challenged by declining forest biodiversity, climate variability, changing socio-economic aspirations, reduced dependence on forest resources, and diminishing participation of younger generations in traditional knowledge systems. By documenting the lived experiences and indigenous knowledge of the Kattunayikka community,

this study contributes to the growing body of scholarship on indigenous food systems and traditional ecological knowledge. Furthermore, it provides insights that may inform policies and interventions aimed at safeguarding indigenous knowledge, strengthening food security, promoting biodiversity conservation, and supporting culturally responsive and sustainable livelihood strategies among indigenous communities.

Keywords: Uncultivated food foraging, Kattunayikka community, traditional ecological knowledge, indigenous food systems, wild edible plants, food security, biodiversity conservation, Wayanad.

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CHAPTER I

INTRODUCTION

1.1 INTRODUCTION

Human food systems have always depended on two broad sources of nourishment: cultivated crops that are intentionally grown and managed, and uncultivated foods gathered from natural landscapes such as forests, grasslands, wetlands, and agroforestry mosaics. Among these uncultivated foods, wild edible plants occupy a particularly important place. They include fruits, leaves, stems, tubers, seeds, flowers, and other plant parts collected from the wild for food, seasonal sustenance, trade, and cultural use. Far from being relics of the past, wild foods remain an active part of livelihood strategies for many Indigenous and rural communities across the world. They contribute to dietary diversity, micronutrient intake, and household food security, especially where agriculture is uncertain or wage employment is limited (Narayanan et al., 2011; Satoyama Initiative, 2012).

The growing recognition of wild foods has also shifted attention toward Indigenous food systems more broadly. These systems are grounded in place-based knowledge, local resource management, and cultural practices that connect food production with social organization and landscape stewardship. In many Indigenous societies, food gathering is not separate from conservation; rather, it is part of a long-term relationship with the environment. Wild food plants are often managed through careful harvesting, protection of useful species, and maintenance of diverse habitats that support both cultivated and uncultivated resources (Narayanan et al., 2004; Satoyama Initiative, 2012). Such practices make Indigenous food systems highly resilient, particularly in the face of climate variability, crop failure, and ecological change.

In India, the importance of wild foods is especially evident because of the country's rich biodiversity and the large number of forest-dependent tribal communities. Across central, eastern, and southern India, tribal groups continue to depend on wild edible plants, mushrooms, tubers, and fruits to supplement cultivated staples. Ethnobotanical studies have shown that these foods are not merely "famine foods," as they are sometimes described, but valuable and culturally meaningful components of everyday diets. In many cases, they provide protein, fibre, vitamins, minerals, and antioxidants that are not easily obtained from staple crops alone (Narayanan et al., 2011; Shahina et al., 2019). This makes wild foods important not only from an ecological perspective, but also from the standpoint of nutrition and public health.

Kerala, particularly the Wayanad district in the Western Ghats, is one of the most important regions in India for studying tribal food systems and wild edible biodiversity. Wayanad is part

of a globally significant biodiversity hotspot and has long been home to tribal communities such as the Kattunaikka, Paniya, and Kuruma. These communities have retained detailed knowledge of wild plants and fungi, using them in food preparation, household nutrition, and seasonal survival. Studies from the region have documented a wide variety of edible species, including leafy greens, tubers, mushrooms, fruits, and climbers, which are collected from forests and semi-wild landscapes (Narayanan et al., 2011; MSSRF, 2004; MSSRF, 2012). Such research shows that wild foods remain deeply embedded in the food culture of tribal households in Wayanad.

The Kattunayika communities sustain their livelihoods through food foraging, collecting uncultivated foods like tubers, leafy greens, honey, and other non-timber forest products (NTFPs), which support biodiversity, nutrition, and cultural identity. Their traditional ecological knowledge fosters conservation through sustainable resource use and community conserved areas, but challenges like habitat degradation, land ownership issues, restricted forest access, and declining knowledge transfer to younger generations threaten their practices. Despite over 800 NTFP types harvested in India, most go unrecorded, and modern pressures like deforestation, climate change, and market integration further endanger these communities' food security, health, and cultural heritage, underscoring the need for research to study their knowledge and support conservation and food sovereignty.

The ethnobotanical literature from Wayanad is especially important because it reveals both the richness and the specificity of local plant knowledge. Narayanan et al. (2011) documented 165 wild edible plant taxa used by the Kattunaikka, Paniya, and Kuruma tribes, showing that these communities possess extensive and highly differentiated knowledge of edible flora. The study is significant because it demonstrates that wild plant use is not uniform across the region; rather, each community has its own ecological experience, preferences, and food traditions. This kind of documentation helps establish wild food plants as central to tribal subsistence and cultural identity in Wayanad.

A gendered perspective further deepens this understanding. The MSSRF report on gender dimensions of wild food management in Wayanad showed that women play a central role in the collection, processing, and transmission of wild food knowledge (Narayanan et al., 2004). Women are often the primary knowledge holders for leafy greens and other household food plants, while men may be more involved in some forest-related gathering activities. The report also highlighted the vulnerability of this knowledge, noting that it is increasingly threatened by

forest change, livelihood shifts, and reduced intergenerational transfer. This is an important reminder that wild food systems are not only ecological systems but also social ones, shaped by gender, age, and household organization.

The importance of wild foods in Wayanad is also reflected in conservation-focused research. The Satoyama Initiative case study on on-farm conservation of plant genetic resources described how tribal communities maintain biodiversity through everyday practices in semi-wild landscapes, home gardens, and forest margins (Satoyama Initiative, 2012). It reported high wild food species richness among the Paniya and Kattunaikka, with 222 species recorded for the Paniya and 177 for the Kattunaikka (Satoyama Initiative, 2012; Narayanan et al., 2004). This finding is striking because it shows that these communities are not passive users of natural resources; they are active managers of plant diversity. Their knowledge and land-use practices help conserve useful species in situ, while also sustaining livelihoods and food security.

Recent nutritional studies have added another layer to the value of wild foods in Wayanad. Abdussalam et al. (2024) analysed five indigenous wild edible fruits used by the Kattunaikka tribe and found that these species possess significant nutritional and antioxidant properties. This kind of research is important because it shows that wild fruits are not simply culturally important foods; they also have measurable biochemical value. In other words, traditional food knowledge and laboratory analysis converge to reveal the hidden nutritional potential of species that are often overlooked in mainstream food systems (Abdussalam et al., 2024).

Mushrooms are another major component of tribal food systems in Wayanad. Shahina et al. (2019) documented 35 species of wild edible mushrooms used by tribal communities, including the Paniya and Kattunaikka. The MSSRF report on wild edible mushrooms used by three tribal groups of Wayanad also provided detailed species-level documentation, strengthening the record of indigenous mycological knowledge (MSSRF, 2020). These studies are important because mushrooms are often seasonal, difficult to identify, and closely tied to ecological conditions such as rainfall and forest humidity. The ability of tribal communities to recognize and use edible mushrooms reflects a high level of environmental knowledge and seasonal adaptation.

Another important aspect of tribal food knowledge in Wayanad is the ethnotaxonomy of wild tubers, especially the genus *Dioscorea*. The study on *Dioscorea* among the Kattunaikka people showed how local communities classify wild yams according to their own knowledge systems (Balakrishnan et al., 2003). This is more than a list of names; it is a window into a local way

of understanding biodiversity. Such ethnotaxonomic systems are valuable because they reveal how people distinguish edible, bitter, medicinal, and otherwise useful species through long-term observation and experience. They also support conservation by encouraging selective use and careful recognition of plant diversity.

Taken together, these studies show that the tribal food systems of Wayanad are deeply knowledge-based, ecologically adaptive, and culturally rooted. Wild edible plants, mushrooms, fruits, and tubers are not isolated resources but part of an interconnected system of food, ecology, and identity. The communities of Kattunaikka, Paniya, and Kuruma have maintained this system through generations of practice, observation, and transmission. At the same time, these systems are under increasing pressure from forest restrictions, habitat loss, livelihood change, market foods, and the weakening of oral knowledge transfer (Narayanan et al., 2004; Satoyama Initiative, 2012). As a result, documentation and analysis of wild food practices are urgently needed. The significance of this research lies in its potential to document and highlight the many ways in which uncultivated food foraging continues to shape the daily life, health, and identity of the Kattunaikka tribe. By focusing on the practice of wild food collection, traditional knowledge and learning patterns, seasonal availability of wild foods, and the medicinal uses of wild plants, this study brings attention to a food system that is both ecologically rich and culturally important. It also examines the nutritional and health value of wild foods, while recognizing that access to these resources is changing because of habitat loss, forest restrictions, and broader socio-economic transformations. At the same time, the study seeks to understand the practical challenges involved in wild food collection and the gradual decline of traditional knowledge among the younger generation. In conclusion, uncultivated food foraging is not only a livelihood activity but also a vital expression of indigenous ecological wisdom. This research aims to contribute to a deeper understanding of these practices, their vulnerabilities, and their continuing relevance in the changing landscape of Wayanad, thereby offering insights that may support food security, cultural continuity, and sustainable resource use among forest-dependent communities.

1.2 STATEMENT OF THE PROBLEM

The Kattunayika communities of Wayanad have traditionally depended on uncultivated food foraging as an important part of their everyday livelihood, food security, and cultural identity. Their food system is closely connected to the collection and use of wild edible plants, many of which are gathered seasonally from forests and other natural landscapes. These wild foods are not only consumed as part of the regular diet, but are also valued for their medicinal properties

and their role in maintaining health and nutritional well-being. The knowledge required for identifying, collecting, processing, and using these wild foods is learned through traditional practices and is passed from one generation to the next through observation, experience, and community interaction.

In recent years, however, these practices have come under increasing pressure. The availability and accessibility of wild foods have changed due to deforestation, habitat degradation, climate change, and the growing influence of market-based food systems. As a result, collecting wild foods has become more difficult, and in some areas less frequent. These environmental and social changes have also affected the transmission of traditional knowledge, especially among the younger generation, who are increasingly disconnected from forest-based food practices. The gradual decline of this knowledge threatens not only the continuity of uncultivated food foraging, but also the broader ecological and cultural relationships that sustain these communities.

Another major concern is the limited documentation of how these communities continue to practice wild food foraging today. There is a need to understand the seasonal availability of wild foods, the methods used for their collection, the medicinal and nutritional significance attached to them, and the challenges people face in accessing and using them. It is also important to examine how changing lifestyles and reduced dependence on forests are influencing learning practices and knowledge transfer within the community.

Therefore, the primary problem addressed in this study is to comprehensively examine the uncultivated food foraging practices of the Kattunayika communities in Wayanad, with particular attention to traditional knowledge and learning, foraging practices, seasonal availability of wild foods, medicinal uses of wild plants, health and nutritional importance, changes in availability and access, challenges in wild food collection, and the decline of knowledge among the younger generation. By addressing these issues, the study seeks to contribute to a better understanding of the importance of wild foods in sustaining food security, cultural continuity, and ecological resilience among forest-dependent communities.

1.3 BACKGROUND OF THE STUDY

Wayanad is one of the most important tribal inhabited districts in Kerala, known for its rich biodiversity, dense forests, and indigenous cultural heritage. The district accommodates the highest tribal population in Kerala, where several tribal communities continue to depend on forests for their livelihood, food, and healthcare practices. Among these tribal groups, the Kattunayikka Community is one of the most forest-dependent and marginalized communities. Traditionally, the Kattunayikka people have lived in close association with forests and possess extensive indigenous knowledge regarding wild edible plants, medicinal herbs, honey collection, and uncultivated food foraging. For generations, uncultivated food foraging has remained an essential part of their survival, culture, and food system (Mohanani & Sivaperuman, 2008).

Uncultivated food foraging refers to the collection of naturally available edible resources from forests, water bodies, and uncultivated lands without formal agricultural cultivation. The Kattunayikka community collects various wild foods such as tubers, mushrooms, leafy vegetables, fruits, bamboo shoots, seeds, honey, and medicinal herbs from forest ecosystems. These uncultivated foods form an important component of their daily diet and nutritional intake. Studies conducted among tribal communities in Wayanad reveal that wild edible plants contribute significantly to food security, nutritional diversity, and sustainable living practices among indigenous populations (Aryal et al., 2009). The traditional ecological knowledge possessed by the community enables them to identify edible species, understand seasonal availability, and practice sustainable harvesting methods.

The practice of uncultivated food foraging among the Kattunayikka community is not merely an economic activity but also an important cultural practice closely connected with their indigenous identity and relationship with nature. Traditional food systems of indigenous communities are increasingly recognized for their role in biodiversity conservation and ecological sustainability. Wild edible plants and forest foods help tribal households survive during periods of food scarcity and reduce dependence on market-based food systems (FAO, 2009). The knowledge related to forest foods is traditionally transmitted orally from elders to younger generations and forms an important aspect of the community's cultural heritage.

1.3.1 Practice of Uncultivated Food Foraging among the Kattunayikka Community

The Kattunayikka community has traditionally practiced wild food collection as a major livelihood and subsistence activity. Different types of uncultivated foods are collected according to seasonal availability and ecological conditions within forest ecosystems. Wild tubers, mushrooms, leafy vegetables, bamboo shoots, fruits, and honey are commonly gathered from forest areas for household consumption. Ethnobotanical studies conducted in Wayanad identified several wild edible species regularly used by tribal communities, including *Amaranthus viridis*, *Alternanthera sessilis*, and *Commelina benghalensis* (Mohanani & Sivaperuman, 2008).

The community possesses deep ecological knowledge regarding the identification, collection, preparation, and preservation of forest foods. Sustainable harvesting methods are traditionally followed to avoid depletion of natural resources and maintain ecological balance. Wild food collection is often carried out collectively by family members, strengthening social cooperation and cultural continuity within the community. Researchers have observed that indigenous food systems contribute significantly to biodiversity conservation and sustainable resource management (FAO, 2009).

However, modernization and changing lifestyles have gradually reduced the practice of uncultivated food foraging among younger generations. Increasing dependence on market foods and public distribution systems has also contributed to the decline of traditional food practices and indigenous ecological knowledge among tribal communities in Wayanad (Aryal et al., 2009).

1.3.2 Medicinal Uses of Wild Foods among the Kattunayikka Community

Apart from their nutritional value, many uncultivated foods collected by the Kattunayikka community possess medicinal importance. Indigenous knowledge regarding the medicinal use of wild edible plants forms an integral part of the traditional healthcare system of the community. Various roots, tubers, leaves, herbs, and fruits collected from forests are used for treating fever, digestive disorders, skin diseases, infections, and respiratory problems. Forest honey and medicinal herbs are also commonly used to improve immunity and maintain overall health (Silja et al., 2008).

Studies conducted among tribal communities in Wayanad documented the use of several medicinal plant species for primary healthcare purposes. Many wild edible plants consumed by the Kattunayikka community contain medicinal and phytochemical properties that contribute to their health benefits (Silja et al., 2008). Since access to modern healthcare

facilities remains limited in remote tribal settlements, traditional medicinal practices continue to play an important role in maintaining community health and well-being.

Researchers emphasize that indigenous medicinal knowledge represents an important cultural asset and contributes significantly to biodiversity conservation and sustainable healthcare systems (World Health Organization, 2013). However, the gradual decline of traditional ecological knowledge among younger generations threatens the continuity of these indigenous healthcare practices.

1.3.3 Challenges in Wild Food Collection

Despite its importance, uncultivated food foraging among the Kattunayikka community faces several environmental, social, and economic challenges. Deforestation, plantation expansion, tourism activities, biodiversity loss, and climate change have significantly reduced the availability of wild edible species in the forests of Wayanad. Environmental degradation and changes in rainfall patterns have affected the seasonal growth and distribution of uncultivated foods, making food collection increasingly difficult for tribal communities (Aryal et al., 2009).

The Kattunayikka community also faces practical difficulties during wild food collection. Forest-dependent families often travel long distances through difficult terrains to gather edible plants and medicinal resources. Encounters with wild animals, physical exhaustion, and lack of proper safety measures make foraging a risky activity, particularly for women and elderly members involved in collection. In addition, forest conservation policies and restrictions on access to protected forest areas have limited the ability of tribal communities to continue traditional foraging practices (Kerala Forest Department, 2018).

Socio-economic marginalization further intensifies these challenges. Poverty, unemployment, food insecurity, malnutrition, and inadequate access to healthcare and education continue to affect the overall well-being of the Kattunayikka community. Increasing dependence on market foods and government ration systems has also contributed to the decline of traditional food systems and indigenous ecological knowledge. As traditional practices disappear, younger generations become increasingly disconnected from forest-based lifestyles and cultural heritage (FAO, 2009).

Therefore, studying uncultivated food foraging among the Kattunayikka community is important for understanding indigenous food systems, preserving traditional ecological knowledge, and promoting sustainable tribal development. This study seeks to examine the

practice of uncultivated food foraging, the medicinal uses of wild foods, and the challenges faced by the Kattunayikka community in sustaining these traditional practices in Wayanad district, Kerala.

1.4 RELEVANCE OF THE STUDY

The present study on uncultivated food foraging among the Kattunayikka Community in Wayanad is highly relevant in understanding the traditional food practices, medicinal knowledge, and everyday challenges faced by one of the most forest-dependent tribal communities in Kerala. Wayanad district has the highest tribal population in the state, and many indigenous communities continue to depend on forests for food, medicine, and livelihood. Among these communities, the Kattunayikka people are traditionally known for their close relationship with forests and their dependence on uncultivated food resources for survival.

The study is significant because uncultivated food foraging continues to play an important role in the food habits and nutritional life of the Kattunayikka community. Wild edible foods such as tubers, mushrooms, leafy vegetables, fruits, honey, and medicinal plants contribute to dietary diversity and food security within tribal households. These traditional food practices also reflect the deep ecological knowledge possessed by the community regarding forests, seasons, and natural resources. However, despite the importance of these practices, there is limited research focusing specifically on uncultivated food foraging among the Kattunayikka community in Wayanad. Most studies have largely concentrated on biodiversity and environmental aspects, while less attention has been given to the cultural, nutritional, and lived experiences associated with wild food collection.

Another relevance of the study lies in its focus on indigenous medicinal knowledge related to wild foods. The Kattunayikka community possesses traditional knowledge regarding the medicinal uses of various forest plants, herbs, roots, and fruits. Many uncultivated foods collected from forests are used not only for nutrition but also for treating common illnesses and maintaining health. This traditional healthcare knowledge remains important, especially in remote tribal settlements where access to modern healthcare facilities is limited. Therefore, the study helps in documenting and preserving indigenous knowledge systems that are gradually disappearing among younger generations.

The study is also important because it highlights the environmental and practical challenges faced during wild food collection. Climate change has become one of the major factors affecting the availability of uncultivated foods in the forests of Wayanad. Irregular rainfall, increasing temperatures, and environmental degradation have affected the seasonal growth and distribution of many wild edible species. In addition, deforestation and biodiversity loss have reduced access to traditional food resources, threatening the sustainability of indigenous food systems.

Another major challenge faced by the Kattunayikka community is the increasing incidence of wild animal attacks during forest visits for food collection. Since tribal families often travel deep into forests to gather wild foods and medicinal plants, encounters with elephants, wild boars, bears, and snakes have become common. These situations create fear, insecurity, and physical risk for the community members involved in foraging activities. Understanding these challenges is important for analysing the everyday realities and vulnerabilities experienced by forest-dependent tribal communities.

The relevance of the study also lies in its contribution to understanding the socio-cultural importance of uncultivated food foraging. The practice is not merely a means of obtaining food but also a part of the cultural identity, traditional lifestyle, and collective memory of the Kattunayikka people. The gradual decline of these practices due to modernization and changing lifestyles threatens the continuity of indigenous ecological knowledge and traditional food culture. Therefore, the study becomes important in preserving and documenting these practices for future generations.

Academically, the study contributes to the fields of sociology, anthropology, tribal studies, environmental studies, and food studies by exploring the relationship between indigenous communities, forests, food systems, and traditional knowledge. The study also enriches the existing literature on indigenous food practices and uncultivated foods among tribal communities in Kerala.

Finally, the study is relevant because it creates awareness regarding the importance of indigenous food systems, biodiversity conservation, and traditional ecological knowledge. By understanding the experiences and challenges of the Kattunayikka community, the study contributes to broader discussions on sustainable living, cultural preservation, and environmental sustainability among indigenous populations.

1.5 CHAPTERIAZTION

The Chapterization of the dissertation is as follows:

Chapter 1: Introduction

Chapter 2: Review of literature

Chapter 3: Methodology

Chapter 4: Case Description

Chapter 5: Thematic Analysis and Discussion

Chapter 6: Findings, Suggestions and Conclusion

References and Annexures will be appended in following Chapter

CHAPTER II

REVIEW OF LITERATURE

2.1 INTRODUCTION

A review of literature is a systematic and critical examination of existing studies, theories, and research findings related to a particular topic. It helps the researcher understand the current status of knowledge, identify research gaps, and develop a strong theoretical and conceptual foundation for the study. According to Baumeister and Leary (1997), a literature review is a systematic way of collecting and synthesizing previous research findings. Similarly, Tranfield, Denyer, and Smart (2003) explain that a well-conducted literature review helps in advancing knowledge and strengthening theoretical development.

An effective literature review integrates findings from different empirical studies and provides a broader understanding of the research problem. Webster and Watson (2002) point out that literature reviews play an important role in building conceptual models and identifying areas where further research is needed. Through reviewing previous studies, researchers can understand different perspectives related to the topic and analyse similarities and differences across research findings.

In studies related to indigenous communities and traditional food systems, literature review becomes especially important because knowledge related to uncultivated foods, medicinal plants, and traditional ecological practices is often scattered across anthropology, sociology, environmental studies, tribal studies, and food studies. A systematic review helps in bringing together these interdisciplinary perspectives and provides a comprehensive understanding of indigenous food practices and livelihood systems.

The present study on uncultivated food foraging among the Kattunayikka Community in Wayanad requires an understanding of previous studies related to wild edible plants, indigenous food systems, medicinal uses of forest foods, traditional ecological knowledge (TEK), and challenges faced by tribal communities in forest-dependent livelihoods. Existing studies indicate that uncultivated foods contribute significantly to food security, nutritional diversity, and sustainable living among indigenous populations. Research also highlights the medicinal value of wild edible plants and the role of indigenous knowledge in biodiversity conservation.

At the same time, previous studies point out that traditional food systems among tribal communities are increasingly threatened by environmental degradation, climate change, modernization, and changing lifestyles. Deforestation, biodiversity loss, and restrictions on forest access have affected the availability of uncultivated food resources in many tribal regions. Furthermore, the gradual decline of indigenous knowledge among younger

generations has raised concerns regarding the preservation of traditional food culture and healthcare practices.

The review of literature in this chapter is organized into seven major thematic areas: (1) the practice and significance of uncultivated food foraging; (2) the diversity of wild edible resources; (3) the nutritional and medicinal value of wild foods; (4) traditional ecological knowledge and its transmission; (5) cultural identity, belief systems, and forest spirituality; (6) conservation and sustainability of indigenous food systems; and (7) threats, challenges, and the need for documentation. Each theme draws upon credible empirical studies, ethnobotanical surveys, and ethnographic research to build a comprehensive understanding of uncultivated food foraging among the Kattunayikka community in Wayanad.

2.2 THEME BASED LITERATURE REVIEW

Theme 1: Practice and Significance of Uncultivated Food Foraging

Uncultivated food foraging has long been recognized as a fundamental component of the livelihood systems of forest-dependent indigenous communities across the world. For many tribal groups, wild edible plants are not merely supplementary foods but essential resources collected from forests and semi-wild landscapes through practices that are learned, refined, and transmitted across generations (Narayanan et al., 2011). The Food and Agricultural Organization (FAO, 1999) estimated that nearly one billion people worldwide rely on wild foods as a significant part of their diet, a figure that underscores the global importance of foraging as a livelihood strategy. This dependence is particularly pronounced among communities living in or near forest ecosystems, where access to cultivated foods may be seasonal, limited, or economically inaccessible.

In the Indian context, tribal communities residing in the biodiversity-rich landscapes of the Western Ghats have maintained elaborate foraging traditions rooted in centuries of ecological co-existence. Pundir and Dhan Singh (2002) conducted a foundational study on wild edible plant use among tribal communities in the Aralam Wildlife Sanctuary in Kerala, documenting 43 wild edible plant species including edible fruits, tubers, leafy vegetables, spices, seeds, and medicinal plants. The study highlighted that knowledge related to wild edible plants is mainly transferred within tribal communities and passed from one generation to another, illustrating the intergenerational character of foraging as a knowledge-based practice. The authors also noted that humans depended on wild plants from prehistoric times and gradually developed knowledge regarding edible species through continuous interaction with

nature, and that although agriculture reduced this dependence, tribal communities continue to rely on uncultivated resources for daily survival (Pundir & Dhan Singh, 2002). Foraging is of great importance as it serves as a reliable means of obtaining both supplemental nutrition and raw materials for survival (Tharakan 2007).

A major contribution to the understanding of foraging practices in Wayanad comes from Narayanan et al. (2011), who documented 165 wild edible plant taxa used collectively by the Kattunayikka, Paniya, and Kuruma tribes of Wayanad district in Kerala. The study, Wild edible plants used by the Kattunayikka, Paniya and Kuruma tribes of Wayanad District, Kerala, India, published in the Journal of Medicinal Plants Research, revealed that wild food collection is systematic and knowledge-based, involving species identification, seasonal awareness, and familiarity with edible plant parts such as leaves, fruits, tubers, shoots, and seeds. Anil Kumar and Narayanan (2005) further enriched this documentation through an extensive survey of wild food diversity across tribal communities in Wayanad, documenting 224 species belonging to diverse ecological and taxonomic categories. Together, these studies establish that foraging among the Kattunayikka community is not an informal or passive activity but a highly specialized, adaptive, and culturally embedded practice.

The Satoyama Initiative (2012), an international framework promoted by the United Nations University and the Convention on Biological Diversity, produced a case study from Wayanad that highlighted the importance of semi-wild landscapes and diverse forest ecosystems in maintaining plant diversity and sustaining food availability for tribal communities. The study emphasized that foraging practices are closely linked with ecological sustainability and local environmental knowledge. The availability of uncultivated food resources is tied to the ecological health of forest environments, making the preservation of these landscapes a prerequisite for the continuity of indigenous foraging traditions (Satoyama Initiative, 2012). This practice is predominantly a women's activity, particularly concerning the collection of roots and tubers, while men's roles in gathering are typically restricted to specialized tasks like honey collection and obtaining construction materials (Tharakan 2007, 16, 17). The Kattunayikka community's foraging practices are therefore not separable from the forest ecology in which they are embedded.

Foraging also fulfills important social and economic functions within tribal communities. According to the M.S. Swaminathan Research Foundation (MSSRF, 2022), wild edible plants continue to serve as critical safety-net resources during periods of agricultural

failure, food price inflation, and seasonal food scarcity in tribal regions of Kerala. The research foundation's documentation of indigenous food systems in the Western Ghats confirms that uncultivated food foraging reduces household vulnerability, supports nutritional diversity, and provides a buffer against market-related food insecurities among forest-dependent communities.

Theme 2: Diversity of Wild Edible Resources

The diversity of wild edible resources used by indigenous communities in Wayanad is remarkable and encompasses a wide range of plant categories including leafy greens, tubers, wild fruits, flowers, seeds, mushrooms, and honey. This diversity reflects not only the botanical richness of the Western Ghats but also the depth of ecological knowledge that tribal communities has developed through long-term interaction with forest environments. The diversity of wild resources exploited by these groups is vast, encompassing a variety of tubers, roots, mushrooms, leaves, berries, and seasonal fruits (Tharakan 2007, 13).

2.1 Leafy Greens and Vegetables

Among the categories of uncultivated foods, wild leafy greens represent one of the most commonly gathered and nutritionally significant resources. Narayanan and Kumar (2011) documented 84 species of leafy greens collected by tribal communities in Wayanad, including species from the genera *Amaranthus*, *Alternanthera*, and *Embelia*. These plants are often considered weeds in agricultural settings, yet tribal communities have developed detailed knowledge of their preparation, processing, and nutritional value. Common preparation methods include boiling, cooking in soups and stews, and treatment with tamarind water or turmeric to neutralize potentially harmful compounds (Narayanan & Kumar, 2011; Anil Kumar & Narayanan, 2005). The systematic use of such processing methods reflects an applied botanical knowledge that has been refined through generations.

2.2 Wild Tubers and Roots

Wild tubers, particularly the various species of yams belonging to the genus *Dioscorea*, are among the most important uncultivated food resources for the Kattunayikka community and other tribal groups in Wayanad. Anil Kumar and Narayanan (2005) documented more than 21 different varieties of wild yams used by the Kattunayikka alone, underscoring the taxonomic depth of their tuber knowledge. Wild tubers are often described as 'life-saver' foods in lean seasons, consumed during monsoon months when other food sources are limited and

agricultural produce has not yet been harvested. Their preparation often requires careful processing including boiling, slicing, sun-drying, and repeated washing to remove toxic alkaloids or bitter compounds, demonstrating that safe consumption of wild tubers requires considerable technical knowledge (Narayanan et al., 2011; Anil Kumar & Narayanan, 2005).

2.3 Wild Fruits and Seeds

Wild fruits constitute another important component of tribal foraging in Wayanad. Narayanan and Kumar (2011) documented 62 species of edible fruits and seeds collected by tribal communities, including ecologically important species such as *Tamilnadia uliginosa* (Divine Jasmine), *Diplocyclos palmatus*, *Momordica dioica* (Spiny gourd), *Physalis minima* (wild cape gooseberry), and *Syzygium caryophyllatum* (Java plum). These fruits are rich in carbohydrates, vitamins, and antioxidant compounds, making them valuable nutritional supplements. A more recent study by Abdussalam et al. (2024) specifically analysed the nutritional and antioxidant properties of indigenous wild edible fruits used by the Kattunayikka community and confirmed their high nutritive value, supporting the role of wild fruits in the dietary and health systems of the community.

2.4 Wild Mushrooms

Ethnomycological knowledge is a particularly distinctive feature of the Kattunayikka community's foraging heritage. Anilkumar, Narayanan, and Satheesh (2008) documented the traditional knowledge of three mycophilic communities the Kattunaikka, Paniya, and Kuruma on wild edible mushrooms in Wayanad district, published in the journal *Ethnobotany*. The Kattunayikka community was found to recognize 33 species of wild mushrooms, while the Paniya community recognized approximately 25 species. Tribal knowledge of mushrooms encompasses species identification, habitat preferences, seasonal availability, preparation methods, and differentiation between edible and toxic species. This mushroom knowledge represents a specialized form of ethnomycological expertise that is integrated into the broader framework of traditional ecological knowledge.

Varghese, Pradeep, and Vrinda (2010), in their study published in the *Journal of Mycopathological Research*, further documented mushrooms of tribal importance in the Wayanad area of Kerala, highlighting the nutritional, cultural, and medicinal significance of wild mushrooms among forest-dependent communities. Their research confirmed that wild mushrooms constitute an important seasonal food source for tribal communities in the region (Varghese et al., 2010). Tribal people use some wild mushrooms as sources of food and

medicine for various ailments in their communities. (Krishnakumar, N. M., & Ceasar, S. A. (2022))

2.5 Honey and Other Forest Products

Honey collection is one of the most culturally and economically significant foraging activities of the Kattunayikka community. Anil Kumar and Narayanan (2005) documented the community's practice of collecting honey from forest trees. Beyond honey, the community also uses certain plant parts for traditional fishing for example, leaves of *Casearia wynadensis* and *Diospyros montana*, or fruits of *Hydnocarpus pentandra*, are employed as natural fish poisons in traditional fishing methods (Anil Kumar & Narayanan, 2005). These multi-purpose uses of forest resources highlight the integrated nature of the Kattunayikka's relationship with wild biodiversity.

Theme 3: Nutritional and Medicinal Value of Wild Foods

The nutritional significance of uncultivated foods has been increasingly recognized by researchers working at the intersection of ethnobotany, public health, and food security. Wild edible plants used by tribal communities in India and globally have been found to contain high levels of essential vitamins, minerals, dietary fiber, and bioactive compounds including antioxidants, polyphenols, and flavonoids (Abdussalam et al., 2024; Narayanan et al., 2011).

Abdussalam et al. (2024) conducted a focused nutritional evaluation of selected indigenous wild edible fruits used by the Kattunaikka community in Wayanad. The study found that these fruits possess high nutritional value and significant antioxidant properties, including elevated levels of Vitamin C, polyphenols, and flavonoids. Such nutritional profiles make these uncultivated foods important contributors to health and immunity within tribal households, particularly in contexts where access to diverse market foods is limited. This finding is consistent with broader research demonstrating that wild edible plants often contain higher concentrations of micronutrients than commonly cultivated varieties (Cruz García, 2006).

A study on wild leafy vegetables consumed by tribal communities in Wayanad documented the nutritional composition of commonly gathered leafy greens, including their protein, iron, calcium, and vitamin content (Narayanan et al., 2011). The results indicated that wild leafy vegetables make significant contributions to micronutrient intake, particularly in communities where dietary diversity is limited by poverty or restricted market access. George and Christopher (2017) similarly found that wild edible plants used by tribal communities in

Pathanamthitta district play a vital role in addressing nutritional deficiencies, providing essential vitamins, minerals, and other nutrients that enhance immunity and support physical health.

Beyond their nutritional value, many wild edible plants used by the Kattunayikka and related communities serve important medicinal functions. In indigenous food systems, the boundary between food and medicine is often permeable many plants are simultaneously consumed as food and used for treating illnesses, reflecting a holistic understanding of nutrition and health. Narayanan et al. (2011) documented numerous instances of dual food-medicine use among wild edible plants in Wayanad, including species used for treating fever, digestive ailments, skin conditions, and respiratory problems. Malappurathattil and Pillai (2024) further documented the medicinal significance of NTFPs used by tribal communities in Kerala, noting that traditional healing knowledge is closely integrated with foraging practices.

Wild mushrooms also contribute meaningfully to both nutritional and medicinal dimensions of tribal food systems. Varghese, Pradeep, and Vrinda (2010) documented the medicinal uses of wild mushrooms among tribal communities in Wayanad, noting their applications in traditional treatments for various ailments. Research on the pharmacological properties of tribal medicinal plants and mushrooms in the Western Ghats has confirmed the bioactive potential of several species traditionally used by communities including the Kattunayikka (Shahina et al., 2019).

Theme 4: Traditional Ecological Knowledge (TEK) and Its Transmission

Traditional ecological knowledge (TEK) is defined by Berkes (2012) as a cumulative body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings including humans with one another and with their environment. TEK is not static but evolves through continuous interaction between communities and their ecological surroundings. Among forest-dependent tribal communities, TEK encompasses a broad spectrum of knowledge including species identification, habitat mapping, seasonal ecology, harvesting techniques, processing methods, and conservation practices (Berkes, 2012).

The TEK of the Kattunayikka community related to uncultivated food foraging represents a sophisticated and ecologically informed knowledge system developed through centuries of forest dependency. Narayanan et al. (2011) demonstrated that the community's foraging practices involve detailed knowledge of plant taxonomy, edible plant parts, seasonal availability, preparation methods, and nutritional uses a level of botanical competence that

reflects generations of careful observation and learning. The transmission of this knowledge is primarily oral and experiential, occurring through participation in everyday foraging activities rather than through formal education (Gandhi Mathi & Abilasha, n.d.).

Gender plays a central role in the transmission and practice of TEK related to wild food foraging. Narayanan et al. (2004) emphasized the gendered dimensions of wild food management in Wayanad and observed that women play a central role in the collection, preparation, preservation, and transmission of knowledge related to uncultivated foods. Mothers, in particular, teach children about edible plants through practical, hands-on participation during foraging trips a pedagogical process that simultaneously reinforces cultural identity and ensures ecological continuity (Cruz García, 2006). MSSRF (2022) similarly noted that women in tribal households in the Western Ghats are the primary knowledge holders of wild food plants, including detailed understanding of seasonal availability and safe preparation methods.

The study by Gandhi Mathi and Abilasha (n.d.), titled 'An Ethnographic Study of Kattunayakar and Irular Tribes: Cultural Practices and Traditions,' highlighted that the indigenous knowledge of the Kattunayikka community is primarily transmitted orally from generation to generation rather than through written records. This oral character of TEK makes it highly vulnerable to disruption when community lifestyles change or younger generations become less engaged in forest-based livelihoods. The study noted that the community's knowledge systems encompass ecological expertise, traditional medicine, and unique cultural practices all of which are integrated within a holistic indigenous worldview rather than compartmentalized into separate domains of knowledge (Gandhi Mathi & Abilasha, n.d.).

Honey collection is a particularly important expression of Kattunayikka TEK. Gandhi Mathi and Abilasha (n.d.) observed that honey collection among the Kattunaikka involves collective knowing of the forest, bees, and flowering trees, and that this practice expresses an indigenous epistemology rather than merely an extractive relationship with nature. The practice requires deep ecological understanding, physical skill, and long-standing experience of bee behaviour, tree species, and forest seasonality. Tribal men are primarily involved in honey collection, and the process may require several days spent deep inside the forest (Gandhi Mathi & Abilasha, n.d.; Times of India, 2019).

Theme 5: Cultural Identity, Belief Systems, and Forest Spirituality

The cultural identity of the Kattunayikka community is inseparable from their relationship with forests and uncultivated nature. The very name 'Kattunayika' derives from the Tamil and Malayalam words meaning 'King of the Jungle,' reflecting their historical identity as forest rulers and their deep ecological embeddedness within woodland landscapes (Kannan & Ruban, n.d.; Gandhi Mathi & Abilasha, n.d.). This identity is not merely symbolic but is reinforced through everyday practices, rituals, spiritual beliefs, and social customs that collectively constitute a forest-centered way of life.

Kannan and Ruban (n.d.), in their study of the traditional lifestyle and cultural identity of the Kattunayika community, described the community as an ancient tribal group residing in Kerala, Karnataka, Andhra Pradesh, and Tamil Nadu, particularly in forest regions bordering the Western Ghats. The researchers highlighted that the Kattunayaks maintain a close relationship with forests and natural surroundings, spending a significant part of their lives within forest environments. The study also documented the traditional nomadic practice known as 'Thangal,' during which individuals travel outside forest areas while following strict customary rules, reflecting the uniqueness of their indigenous social organization (Kannan & Ruban, n.d.).

Usharani and Kavitha (2025), in a study published in *The Bioscan* journal, examined the belief systems, spirituality, and traditional practices of the Kattunayakan community in the Tirupur district of Tamil Nadu. The study explained that the community traditionally followed a nomadic or semi-nomadic lifestyle closely associated with forests and nature, and that certain groups within the community were historically identified as 'Purkasan,' meaning rat trappers, indicating deep-rooted hunting and food collection practices. The researchers found that the Kattunayikans worship trees, rocks, hills, snakes, and wild animals as part of their animistic and naturalistic belief systems, and that their rituals and spiritual practices involve the collection of various forest materials such as gourds, seeds, sacred soil, peacock eggs, dry nuts, and animal products (Usharani & Kavitha, 2025).

This animistic orientation has direct implications for environmental stewardship and resource management. By treating natural beings trees, animals, and water bodies as sacred entities deserving respect and protection, the Kattunayikka community's spiritual beliefs function as informal conservation mechanisms. Gandhi Mathi and Abilasha (n.d.) noted that the Kattunayikka community's relationship with the forest is reinforced by respect for natural beings, which forms part of their worldview and supports a conservation ethic in which the forest is not merely a resource base but a living space deserving care and protection.

The cultural dimension of biodiversity conservation among tribal communities has also been examined in broader comparative contexts. Misra, Mishra, and Bondla (2010), in a study published in the *Indian Anthropologist*, examined the cultural dimension of biodiversity conservation among tribes of the Eastern Ghats, including the Koya and Konda Reddi communities. The researchers found that tribal communities classify forests into different ecological zones based on vegetation type and resource availability, and that rituals, taboos, and customary rules regulate the collection and use of forest resources to prevent overexploitation of important food species. Totemic beliefs associated with plants and animals were documented as functioning as traditional conservation practices that support biodiversity protection (Misra et al., 2010). Although focusing on the Eastern Ghats, these findings have important comparative relevance for understanding the cultural conservation practices of the Kattunayikka community in the Western Ghats.

Theme 6: Conservation and Sustainability of Indigenous Food Systems

Indigenous foraging communities like the Kattunayikka have traditionally practiced sustainable resource management through a combination of ecological knowledge, cultural beliefs, and customary regulations. Their interactions with forest ecosystems have historically been characterized by selective harvesting, seasonal collection, and careful attention to the regenerative capacity of wild plant populations (Narayanan et al., 2011; Kumar & Narayanan, 2005).

Narayanan et al. (2011) observed that tribal communities in Wayanad practice selective foraging, meaning they harvest only certain parts of plants leaves, fruits, or tubers leaving the plant intact to regenerate. This approach contrasts with extractive practices that deplete plant populations and demonstrates an implicit understanding of ecological sustainability. The communities' knowledge of seasonal availability guides the timing of harvests, ensuring that resources are not over-collected during vulnerable growth periods. Such practices contribute directly to the conservation of wild plant diversity in and around forest ecosystems.

Unnikrishnan (2021) highlighted the role of sacred groves and the protection of keystone species in indigenous conservation practices among tribal communities in Kerala. Sacred groves patches of forest designated as spiritually significant and therefore protected from human exploitation represent a traditional institution for biodiversity conservation that predates formal scientific conservation frameworks. The cultural prohibition on harvesting certain species or disturbing certain forest areas functions as an informal protected area system that

complements formal wildlife sanctuaries and forest reserves. The Kattunayikka community's animistic beliefs documented by Usharani and Kavitha (2025) and Gandhi Mathi and Abilasha (n.d.) are consistent with this model of spiritually motivated conservation.

Malappurathattil and Pillai (2024) examined the sustainable use of non-timber forest products (NTFPs) by tribal communities in Kerala, emphasizing that the communities' knowledge of wild plants and NTFPs guides sustainable harvesting and ensures that these resources are not overexploited. The study noted that practices such as selective foraging, seasonal collection, and careful preparation of plants with irritants reflect a deep understanding of ecological balance and biodiversity conservation an understanding that has been embedded in tribal practice through generations of accumulated experience.

Scholars increasingly argue that integrating indigenous conservation practices with scientific approaches can strengthen conservation outcomes for biodiversity-rich ecosystems like the Western Ghats. George and Christopher (2017) suggested that recognizing and formalizing indigenous knowledge systems in conservation policy, securing land tenure for tribal communities, and supporting community-led conservation initiatives can help sustain both forest biodiversity and the cultural practices of tribal communities for future generations. Such integration requires treating indigenous knowledge not as an informal supplement to scientific management but as a legitimate and sophisticated system of environmental understanding in its own right.

Theme 7: Threats, Challenges, and the Need for Documentation

Despite the richness and sophistication of uncultivated food foraging traditions among the Kattunayikka and related communities, these practices face a complex and intensifying array of threats. The literature consistently identifies environmental degradation, social change, and institutional pressures as the primary drivers of the erosion of indigenous food systems and traditional ecological knowledge (Narayanan et al., 2004; MSSRF, 2022; Malappurathattil & Pillai, 2024).

7.1 Environmental Threats

Deforestation, habitat loss, and biodiversity decline are among the most serious environmental threats to uncultivated food systems. As forests are cleared for agriculture, plantation crops, and infrastructure development, the wild plant diversity that sustains tribal foraging practices is progressively reduced. Anil Kumar and Narayanan (2005) documented

the impact of habitat loss and invasive species on the availability of wild edible plants in Wayanad, noting that several commonly used food species have become scarcer due to forest degradation. The expansion of monoculture plantations particularly tea, coffee, and rubber has dramatically reduced the semi-wild landscapes that tribal communities depend upon for foraging (Satoyama Initiative, 2012).

Climate change represents an additional and growing environmental threat to uncultivated food systems. Changes in rainfall patterns, temperature regimes, and seasonal cycles affect the phenology of wild edible plants, altering the timing and reliability of harvests. MSSRF (2022) noted that environmental changes have affected the seasonal availability of many forest foods in tribal regions of Kerala, creating uncertainty and food insecurity for communities that depend on predictable foraging calendars. Reduced forest access due to the establishment and enforcement of protected area boundaries further constrains the foraging activities of tribal communities (Narayanan et al., 2011).

7.2 Socio-Cultural Threats

Modernization and increasing integration with mainstream society have brought significant socio-cultural changes that threaten the continuity of foraging traditions. Younger generations in tribal communities are increasingly educated in formal schools, exposed to market goods, and oriented toward wage employment rather than forest-based livelihoods. This shift in lifestyle reduces participation in traditional foraging activities and weakens the intergenerational transmission of ecological knowledge (Narayanan et al., 2004; Unnikrishnan, 2021).

Social stigma associated with wild foods is another important socio-cultural barrier to the continuation of foraging practices. As tribal communities interact more closely with mainstream society, uncultivated foods are sometimes perceived as markers of poverty or backwardness, creating social pressure on tribal members particularly younger people to abandon traditional dietary practices in favor of market foods. Cruz García (2006) documented similar dynamics in other indigenous food systems, noting that social stigmatization of wild foods often accelerates the erosion of foraging traditions and associated botanical knowledge.

The loss of written documentation is a structural vulnerability that compounds these socio-cultural threats. Gandhi Mathi and Abilasha (n.d.) observed that knowledge of uncultivated foods and forest use among the Kattunaikka is transmitted entirely orally, making it uniquely susceptible to rapid loss when communication channels between generations are

disrupted. Unlike written knowledge traditions, oral knowledge systems require active intergenerational engagement to survive; when the lifestyle contexts that sustain this engagement change, the knowledge itself is at risk of extinction within a single generation.

7.3 Institutional and Policy Challenges

Institutional policies related to forest management and protected areas have significantly affected tribal access to forest resources. Pundir and Dhan Singh (2002) noted that modernization and increasing pressure on natural resources have led to a decline in wild edible plant diversity and traditional ecological knowledge. Restrictions on forest entry imposed by wildlife sanctuary and national park regulations limit the ability of tribal communities to forage freely in areas that were historically accessible. Kannan and Ruban (n.d.) observed that increasing interaction with the outside world and institutional pressures have influenced many aspects of the traditional lifestyle of the Kattunayikka community, making it important to understand and preserve indigenous cultural knowledge and traditional forest-based practices.

Human-wildlife conflict represents an additional institutional and physical challenge for tribal communities engaged in foraging. As wildlife populations particularly elephants, leopards, and gaur expand into forest margins and agricultural areas, tribal households face increasing risks during forest-based food collection activities. Narayanan et al. (2011) identified human-wildlife conflict as a growing concern in forest regions like Wayanad, affecting the safety and livelihood of tribal households engaged in foraging activities. The combination of reduced forest access through policy restrictions and increased danger in remaining accessible areas creates a compounding challenge for forest-dependent communities.

7.4 The Need for Documentation and Conservation

Given the multiple and interacting threats to uncultivated food foraging traditions, the literature consistently emphasizes the urgent need for systematic documentation of indigenous food knowledge. Abdussalam et al. (2024) called for comprehensive documentation of the nutritional and ecological dimensions of wild food systems among tribal communities in Wayanad, noting that such documentation is essential not only for preserving cultural heritage but also for informing nutrition policy, biodiversity conservation, and food security strategies. George and Christopher (2017) similarly emphasized the importance of including indigenous food systems in wider nutrition and environmental strategies, arguing that the ecological and nutritional knowledge held by communities like the Kattunayikka represents an irreplaceable asset for sustainable development.

MSSRF (2022) argued for community-led conservation approaches that recognize tribal communities as active agents in the protection and transmission of their own food knowledge, rather than passive subjects of conservation programs designed by external agencies. Such participatory approaches are more likely to be culturally appropriate, ecologically informed, and sustainable in the long term. Misra, Mishra, and Bondla (2010) advocated for the integration of indigenous ecological knowledge with scientific conservation approaches, arguing that this integration is essential for the effective conservation of biodiversity-rich ecosystems like the Western Ghats.

In essence, understanding and preserving uncultivated food foraging among the Kattunayikka community requires a broad and multi-faceted approach that includes traditional ecological knowledge, cultural practices, and community-centered documentation. It involves systematically recording indigenous foraging traditions, implementing specific conservation efforts, and acknowledging the community's strong connection to forest ecosystems. The vulnerability of the Kattunayikka community's food systems and the gradual decline of their traditional knowledge can only be effectively addressed if we recognize and understand the deep-rooted causes of deforestation, limited forest access, modernization, and intergenerational knowledge loss. The continuity of these practices and the strength of indigenous food systems can be maintained if the community is at the centre of all research and conservation efforts, being recognized as the primary guardian of their own ecological and cultural heritage.

2.3 RESEARCH GAP

Existing studies have looked at the variety of edible plants, mushrooms and other forest resources used by tribal communities in Kerala and different parts of India. These studies have shown that uncultivated foods have value, medicinal importance and ecological significance. They have also highlighted the knowledge that tribal communities have about collecting and using these foods.

The Kattunayikka and other indigenous groups have been studied to understand their practices, beliefs and dependence on forests. However, there are not studies on how the Kattunayikka community in Wayanad currently uses uncultivated foods. Most studies focus on documenting plant species and their uses. They do not look at how uncultivated food foraging affects the lives, food habits, health practices and cultural identity of the Kattunayikka community.

The use of foods for medicine and the knowledge about identifying, collecting, preparing and consuming them is not well understood. There are also challenges that the Kattunayikka

community faces in accessing and collecting foods. These include climate change, habitat degradation, declining biodiversity changing forest conditions and increasing animal attacks. These issues have not been studied in detail in relation to foraging practices.

This study aims to fill this gap by looking at food foraging among the Kattunayikka community in Wayanad. It will focus on their knowledge, uses of wild foods and the challenges affecting these traditional practices. The Kattunayikka community practice of food foraging and their knowledge of wild foods are essential, to understanding their way of life.

The study will explore how uncultivated food foraging affects the lives of the Kattunayikka community. It will also examine the uses of wild foods and the challenges faced by the community in accessing and collecting them. By doing it aims to contribute to the understanding of the Kattunayikka community traditional practices and their cultural identity.

CHAPTER III

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter presents the methodology adopted for the study on uncultivated food foraging practice among the Kattunayikka community in Wayanad. Research methodology refers to the structured set of principles, strategies, and procedures that guide how a research problem is investigated and addressed. It is not merely about selecting specific techniques but about understanding the reasoning and logic behind each methodological choice made during the research process. As Creswell (2014) defines it, research methodology is the overall plan through which the various components of a study are integrated into a coherent and logical structure that ensures the research problem is adequately and systematically addressed.

The present study seeks to explore the practice of uncultivated food foraging practice among the Kattunayikka community, with particular attention to their indigenous knowledge, medicinal uses of wild foods, seasonal foraging patterns, and the contemporary challenges affecting the continuation of these traditional practices. Given the nature of the study which focuses on lived experiences, cultural practices, and indigenous knowledge systems of a specific tribal community the methodological approach has been carefully designed to be sensitive, community-centered, and contextually appropriate.

This chapter provides a comprehensive account of the methodological decisions made in conducting the study. It covers the title of the study, research questions. It describes the research design adopted, the study area, and the participants involved. The sampling strategy and the process of selecting respondents are explained in detail, followed by a description of the methods used for data collection and the approach taken for data analysis and interpretation. The chapter also addresses the ethical considerations observed during the study, along with the assumptions, limitations, and scope of the research. Together, these elements provide a transparent and systematic account of how the findings of this study were derived and how the research process was conducted with rigor, sensitivity, and academic integrity.

3.2. TITLE OF THE STUDY

Uncultivated Food Foraging Practice among Kattunayikka Communities in Wayanad

3.3. RESEARCH QUESTIONS

3.3.1 General Research Questions

- How do members of the Kattunayikka community in Wayanad perceive and practice uncultivated food foraging, and what is its significance for their livelihood, health, culture, and sustainability?

3.3.2 Specific Research Questions

- What are the traditional practices and indigenous knowledge related to uncultivated food foraging among the Kattunayikka community?
- What are the seasonal patterns, collection practices, and availability of uncultivated food resources among the Kattunayikka community?
- How are uncultivated food plants used for nutritional and medicinal purposes within the Kattunayikka community?
- What changes and challenges influence uncultivated food foraging among the Kattunayikka community?

3.4 DEFINITION OF THE CONCEPTS

SL NO	CONCEPTS	CONCEPTUAL DEFINITION	OPERATIONAL DEFINITION
1	Wild Foods	Wild foods are edible biological resources, including plants, fruits, tubers, leafy greens, mushrooms, honey, insects, fish, and other animal-based foods, that are obtained from natural or semi-natural environments without deliberate cultivation or domestication. They form part of local food systems and are often linked to nutrition, traditional ecological knowledge, seasonal availability, cultural practices, and livelihood security among indigenous and forest-dependent communities. (Bharucha, Z., & Pretty, J. (2010). The roles and	Wild foods refer to naturally occurring, uncultivated edible resources foraged directly from forests, rivers, and other natural landscapes, including wild tubers, leafy vegetables, mushrooms, fruits, roots, honey, fish, crabs, and medicinal plants, which are collected, prepared, and consumed by the communities using traditional ecological knowledge, without reliance on agricultural cultivation or domestication

		values of wild foods in agricultural systems. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 365(1554), 2913–2926).	
2	Foraging Practice	Foraging practice refers to the gathering, collecting, or harvesting of wild and uncultivated food resources from natural or semi-natural environments for food, medicine, livelihood, and cultural purposes. It is closely connected with traditional ecological knowledge, seasonal resource availability, and the cultural practices of local and indigenous communities. (Mina, G., Scariot, V., Peira, G., & Lombardi, G. (2023). Foraging Practices and Sustainable Management of Wild Food Resources in Europe)	Foraging practice refers to the traditional process of searching for, identifying, collecting, and using wild or uncultivated food resources from natural or semi-natural environments. It includes the gathering of edible plants, fruits, tubers, mushrooms, honey, and other forest-based resources, and is closely linked to subsistence, traditional ecological knowledge, seasonal food availability, cultural practices, and livelihood security among indigenous and forest-dependent communities
3	Sustainability	The process of living within the limits of available physical, natural and social resources in ways that allow the living systems in which humans are embedded to thrive in perpetuity. (University of Alberta. (n.d.). <i>Our definition of sustainability</i>).	The ability to maintain or enhance the availability of uncultivated food resources (e.g., wild tubers, greens, honey, fish) and associated indigenous practices over time, while supporting ecological balance, cultural identity, and

		Office of Sustainability. Retrieved July 9, 2026)	livelihoods of the Kattunayikka communities.
4	Traditional Ecological Knowledge	TEK is a collection of knowledge held by people in communities with a long history of direct dependence on local resources about the relationship of living beings, both human and non-human, to one another and to the natural environment. TEK can be held by Indigenous and non-Indigenous communities and is a combination of practical knowledge, practices, and beliefs that is handed down through generations, and used for life-sustaining ways. (NYSDEC 2020)	The traditional ecological knowledge refers to the indigenous knowledge, skills, and practices of the Kattunayikka community concerning the identification, seasonal availability, sustainable harvesting, medicinal uses, and conservation of uncultivated food resources, acquired through generations of interaction with the forest and transmitted through oral tradition and experiential learning.

3.5 PILOT STUDY

A pilot study is a preliminary investigation conducted before the main study to assess the feasibility of the research design, evaluate the suitability of the data collection tools, and identify any practical issues that may arise during fieldwork. It enables the researcher to refine the research process and enhance the quality of the main study.

The pilot study provided a preliminary understanding of the community's uncultivated food foraging practices and confirmed that the participants possessed substantial traditional ecological knowledge regarding the identification, collection, seasonal availability, medicinal uses, and sustainable utilization of wild food resources. It also highlighted the continued importance of uncultivated foods for household food security, health, and cultural traditions, while revealing challenges such as declining wild food resources, animal attack, changing

environmental conditions, restrictions on forest access, and reduced transmission of indigenous knowledge to younger generations.

3.6 RESEARCH DESIGN

A research design serves as the blueprint for conducting a study by providing a systematic framework for collecting, analysing, and interpreting data to address the research questions. It outlines the overall plan of the research and ensures that the study is carried out in a logical, coherent, and rigorous manner. According to Creswell (2014), a research design is a framework that integrates the research questions, methods of data collection, data analysis, and interpretation into a comprehensive plan for conducting research.

The present study adopts a descriptive research design. A descriptive design is appropriate for studies that seek to provide a comprehensive understanding of a phenomenon as experienced and perceived by participants within their natural setting. Rather than testing hypotheses or establishing causal relationships, it focuses on describing participants' experiences, perceptions, knowledge, and practices in depth.

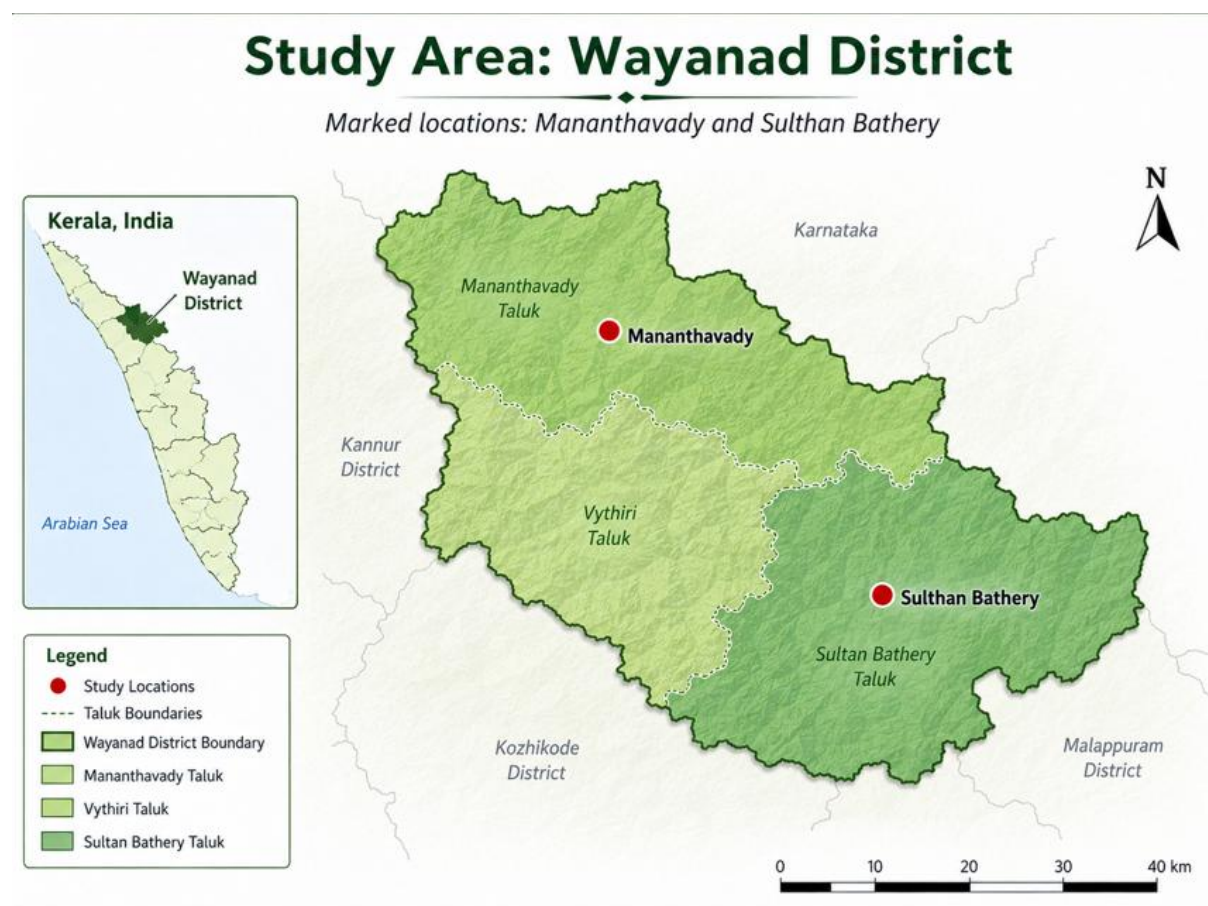
The descriptive design is considered appropriate for the present study as it facilitates an in-depth exploration of uncultivated food foraging practices among the Kattunayikka community in Wayanad. It enables the researcher to understand the community's traditional ecological knowledge, food collection practices, seasonal availability of wild food resources, medicinal uses, cultural significance, and the challenges affecting the continuity of these practices. Furthermore, the design provides a holistic understanding of how uncultivated food foraging contributes to food security, health, cultural identity, and sustainable livelihoods within the community. The flexibility of this design also allows participants to share their lived experiences and perspectives in their own words, thereby generating rich and context-specific qualitative data relevant to the objectives of the study.

3.7 DESCRIPTION OF RESEARCH SITE AND PARTICIPANTS

The present study was conducted in selected Kattunayikka settlements in Wayanad district, Kerala. Wayanad is one of the major tribal districts of the state and is home to a substantial population of Scheduled Tribes, including the Kattunayikka community. The district is characterized by extensive forest cover, rich biodiversity, and diverse ecosystems that support the availability of a wide variety of uncultivated food resources. The Kattunayikka community has traditionally maintained a close relationship with the forest, relying on it for food, medicine, and other livelihood needs. Selected settlements in Sulthan Bathery, and Mananthavady were

chosen for the study, as these areas continue to exhibit active uncultivated food foraging practices and the preservation of traditional ecological knowledge.

The participants of the study comprised adult members of the Kattunayikka community residing in the selected settlements of Wayanad district. Participants were purposively selected based on their knowledge and experience of uncultivated food foraging. The study included individuals who were actively engaged in the identification, collection, preparation, and utilization of uncultivated food resources and who possessed knowledge of their seasonal availability, medicinal uses, and cultural significance. Both men and women were included to capture diverse perspectives and experiences related to traditional foraging practices. Their lived experiences and indigenous ecological knowledge provided valuable insights into the role of uncultivated food foraging in food security, health, cultural continuity, and the sustainable use of forest resources among the Kattunayikka community



3.8 SAMPLING STRATEGY & CRITERIA/ SELECTION OF RESPONDENTS

The present study employed purposive sampling, a non-probability sampling technique commonly used in qualitative research to select participants who possess specific knowledge and experience relevant to the phenomenon under investigation. Purposive sampling involves the intentional selection of individuals who can provide rich, detailed, and meaningful information that addresses the objectives of the study. The strength of purposive sampling lies in identifying individuals who are knowledgeable about the phenomenon of interest and are therefore able to contribute rich, detailed, and context-specific information (Patton, 2015).

In the present study, purposive sampling was considered the most appropriate sampling strategy because the research focuses on exploring uncultivated food foraging practices among the Kattunayikka community in Wayanad. The study required participants who possess traditional ecological knowledge and practical experience related to the identification, collection, preparation, seasonal availability, medicinal uses, and cultural significance of uncultivated food resources. Therefore, participants were purposively selected from Kattunayikka settlements in Sulthan Bathery, Chekadi, Veetimoola, Mananthavady based on their knowledge and active involvement in uncultivated food foraging practices. This sampling strategy facilitated the collection of rich qualitative data that directly addressed the objectives of the study.

Inclusion Criteria

- Members of the Kattunayikka community residing in selected settlements of Wayanad district.
- Individuals aged 18 years and above.
- Individuals with knowledge and experience in uncultivated food foraging practice.
- Individuals actively involved in the collection, preparation, or utilization of uncultivated food resources.
- Participants willing to provide informed consent and voluntarily participate in the study.

Exclusion Criteria

- Members of the Kattunayikka community who were below 18 years of age.

- Individuals who had no knowledge or practical experience of uncultivated food foraging or the use of wild edible plants.
- Members of the community who had not participated in uncultivated food foraging for a considerable period and were therefore unable to provide relevant information on current practices.
- Individuals who were temporarily residing in the selected settlements and were not permanent members of the Kattunayikka community.
- Individuals who were unwilling to participate.
- Individuals who were unable to participate effectively in the interview due to communication difficulties or any condition that prevented them from sharing their experiences.

3.9 DATA COLLECTION

3.9.1 SOURCES OF DATA

PRIMARY DATA

The primary data for the present study were collected directly from members of the Kattunayikka community residing in selected settlements of the Mananthavady and Sulthan Bathery regions of Wayanad district. The researcher visited various Kattunayikka settlements and interacted with community members, particularly individuals who continue to practise uncultivated food foraging and possess indigenous knowledge related to wild edible food resources. Information was gathered through semi-structured interviews and field observations to understand their traditional foraging practices, indigenous ecological knowledge, seasonal patterns of food collection, medicinal uses of uncultivated foods, and the challenges affecting the continuity of these practices. The direct interaction with experienced foragers enabled the researcher to obtain rich and context-specific information relevant to the objectives of the study.

SECONDARY DATA

The secondary data for the present study were collected from books, peer-reviewed journals, research articles, dissertations, reports and other published sources related to uncultivated food foraging, traditional ecological knowledge, wild edible plants, indigenous food systems, and tribal communities. Relevant literature focusing on the Kattunayikka community and other

indigenous communities practising uncultivated food foraging was also reviewed to provide conceptual understanding and contextual support for the study.

3.9.2 DATA COLLECTION

Primary data were collected through field visits to selected Kattunayikka settlements in the Mananthavady and Sulthan Bathery regions of Wayanad district. The researcher interacted with members of the Kattunayikka community, particularly individuals who are actively engaged in uncultivated food foraging, those who had previously practised foraging, and community members possessing indigenous knowledge of wild edible food resources. Prior to data collection, informed consent was obtained from all participants.

Semi-structured interviews served as the primary method of data collection, enabling participants to freely share their experiences, knowledge, and perspectives on uncultivated food foraging practices. The interview guide provided a flexible framework for exploring traditional ecological knowledge, food collection practices, seasonal availability, medicinal uses, and the challenges affecting the continuity of foraging practices. Field observations were also carried out to gain a contextual understanding of the community's foraging practices and their interaction with the surrounding environment. The interviews were conducted in Malayalam and, with the participants' consent, were audio-recorded. The recorded interviews were subsequently transcribed verbatim and translated into English for analysis.

3.9.3 TOOL FOR DATA COLLECTION

A semi-structured interview guide was the primary tool used for data collection. The interview guide consisted of open-ended questions developed in accordance with the general and specific research questions of the study. It was designed to explore the participants' traditional ecological knowledge, uncultivated food foraging practices, seasonal availability of wild food resources, medicinal uses, cultural significance, and the challenges influencing the continuity of these practices. Following the pilot study, minor modifications were made to improve the clarity, sequencing, and relevance of the interview questions. The interview data were further complemented by field observations conducted during visits to the selected Kattunayikka settlements, which enabled the researcher to gain a contextual understanding of the community's foraging practices, interaction with the forest environment, and the lived experiences associated with uncultivated food foraging.

3.10 PRETEST

A pre-test was conducted prior to the main study to assess the suitability, clarity, and effectiveness of the interview guide developed for data collection. The primary purpose of the pre-test was to determine whether the interview questions were understandable, relevant to the research objectives, and capable of eliciting detailed information regarding uncultivated food foraging practices among the Kattunayikka community.

3.11 DATA ANALYSIS

Data analysis in the present study followed a thematic analysis approach, whereby the information collected through semi-structured interviews and field observations was systematically organized, coded, and grouped into themes based on the objectives and research questions of the study. This approach was adopted to identify recurring patterns and gain an in-depth understanding of uncultivated food foraging practices among the Kattunayikka community. The thematic analysis enabled the researcher to interpret the findings within the context of the participants lived experiences, ensuring that the analysis remained grounded in their perspectives.

3.12 ETHICAL CONSIDERATION

The study adhered to established ethical principles throughout the research process. Participants were informed about the purpose of the study, and informed consent was obtained prior to data collection. Participation was voluntary, and participants were free to withdraw from the study at any stage. Confidentiality and anonymity were maintained by using pseudonyms and excluding personal identifiers. Audio recordings were made only with participants permission and were used solely for academic purposes. The cultural values and traditional ecological knowledge of the Kattunayikka community were respected throughout the study, and the information shared by the participants was presented accurately and responsibly.

3.13 ASSUMPTIONS LIMITATIONS AND SCOPE

Assumptions

- The Kattunayikka community continues to possess traditional ecological knowledge related to uncultivated food foraging practices.
- The participants selected for the study have adequate knowledge and experience of uncultivated food foraging to provide meaningful information.

- The responses provided by the participants are genuine reflections of their experiences, knowledge, and perceptions regarding uncultivated food foraging.
- The information obtained through interviews and field observations is sufficient to understand the traditional foraging practices and associated challenges of the Kattunayikka community.

Limitations

- The study is limited by its qualitative design and relatively small number of participants, which restricts the extent to which findings can be generalised to all Kattunayikka communities or to other tribal groups.
- The study focuses on selected settlements in Wayanad, and therefore does not capture the full diversity of ecological conditions and foraging practices across all areas where Kattunayikka live.
- Access to forest areas and specific foraging sites is subject to government regulations, forest department controls, and local restrictions, which may have limited direct observation of certain practices.
- The study period covers specific seasons, so some seasonal variations in the availability of uncultivated foods and related practices may not be fully represented.
- The findings are based on self-reported experiences and researcher observations, which may be influenced by memory, social desirability, and the researcher's interpretive perspective.
- Language differences and the need for translation or interpretation in some interviews may have led to minor loss or simplification of nuanced meanings in participants' narratives.

SCOPE

This study focuses on uncultivated food foraging practices among the Kattunayikka community in selected settlements of Wayanad district, Kerala. It examines how the identification, collection, preparation, storage, and medicinal use of wild edible resources are embedded in the everyday life of the community. The study particularly attends to the traditional ecological knowledge that guides these practices, and to the ways this knowledge is learned, transmitted, and adapted across generations.

The enquiry is limited to uncultivated foods gathered from forests and other unmanaged landscapes, and does not include cultivated crops or market-based food systems. Within this

frame, the study explores the role of uncultivated foods in household food security, nutrition, health practices, and cultural identity among the Kattunayikka. It also considers emerging challenges such as changes in availability and access to wild foods, environmental changes, institutional restrictions on forest use, and the gradual decline in the transfer of knowledge to younger members of the community.

The study adopts a qualitative descriptive approach based on semi-structured interviews, field observation, and, where possible, guided forest walks with knowledge-holders. The scope is therefore interpretive rather than statistical; the findings aim to provide an in-depth understanding of practices and meanings within the selected Kattunayikka settlements, rather than to generate generalisable claims for all tribal communities in Wayanad or Kerala. By situating uncultivated food foraging within the broader context of livelihood, culture, and ecological change, the study seeks to contribute to discussions on indigenous food systems, traditional ecological knowledge, and the vulnerabilities faced by forest-dependent communities.

CHAPTER IV

CASE DESCRIPTION

CASE 1

Mr. T is an elderly member of the Kattunayikka community living in a settlement in the Kattikulam region of Wayanad district. Having spent his entire life in the forest environment, he possesses extensive knowledge about uncultivated food resources and the traditional ways of collecting them. While speaking about his life, it became clear that the forest has never been separate from his everyday existence. It has always provided food, medicine, and a way of living for his family and the community. His memories of childhood are closely connected with the forest, where he learned everything by accompanying his parents and elders during their regular foraging trips.

As a child, following the elders into the forest was a normal part of daily life. There were no formal lessons or instructions. Learning happened naturally through observation and participation. While walking through the forest, he watched the elders identify plants, dig out tubers, and collect edible leaves and mushrooms. Slowly, he began to recognise the plants himself. With time, he learned where different plants grow, the seasons in which they become available, and the safest way to collect them without damaging the forest. For him, this knowledge is something that can only be gained through years of experience. It cannot be learned from books or in a classroom.

Foraging continues to be part of his life even today, although it is no longer done as frequently as before. Whenever time permits, he visits the forest to collect food for his household. The purpose is never commercial. Whatever is gathered is brought home and shared among the family members. Speaking about the different foods available in the forest, he recalled a wide variety of tubers that have always formed an important part of the community's diet. Among them were *kachil*, *kizhangu*, *koovakkizhangu*, *ponnikizhangu*, *noorakizhangu*, and *bunnikizhangu*. Each grows under different conditions inside the forest. Some are found in dry soil, while others grow only in moist areas or close to large trees. Finding them is not as simple as it appears. Often, only a tiny leaf or a thin stem is visible above the ground. Those who have grown up in the forest can recognise these signs immediately, but someone unfamiliar with the forest would easily walk past them without noticing anything.

Apart from tubers, many other uncultivated foods continue to be collected whenever they are available. Bamboo shoots, especially *mulakkoombu* and *illikoompu*, are gathered during the appropriate season. Different varieties of naturally growing leafy vegetables are also used in

daily cooking. He mentioned greens such as *cheera*, *ullicheera*, *kaakkachepp*, and *sambarcheera*, all of which grow without cultivation. These are collected only when they are fresh and suitable for consumption. During the rainy season, mushrooms become one of the most important forest foods. He spoke about varieties such as *vellaram koon*, *ari koon*, and *karadi koon*. Only mushrooms that are well known to the community are collected because some wild mushrooms are poisonous. Honey and seasonal fruits like *navalpazham* and gooseberries are also collected whenever they are found. Looking back, he said that these foods were once an essential part of everyday meals and continue to remain important within the community.

While talking about foraging, he repeatedly returned to the importance of experience. People in the community do not identify plants by their scientific names. Instead, they recognise them through their appearance, leaves, stems, smell, and the places where they naturally grow. Years of moving through the forest have trained their eyes to notice small details that others may overlook. This ability has been handed down from one generation to the next and continues to guide their foraging practices. Whenever they come across an unfamiliar plant, they simply leave it untouched because they cannot be certain whether it is safe to eat.

The conversation gradually shifted towards the difficulties of entering the forest today. Safety has become a major concern, particularly because of the increasing presence of wild animals. Before setting out, people carefully observe the surroundings. Fresh footprints, broken branches, and other signs help them judge whether animals have recently passed through the area. Among all the animals, elephants remain the greatest source of fear. He recalled several occasions when elephants had entered the settlements and stood close to people's houses. Such incidents have become more common than before and have made people much more cautious. Earlier generations, he felt, had greater confidence while moving through the forest because they were more familiar with animal behaviour and knew how to respond to such situations. Today, that confidence has reduced, especially among younger people.

As the discussion continued, another concern became evident. The transfer of traditional knowledge within the community is gradually becoming weaker. In earlier times, children regularly accompanied their parents and grandparents into the forest. Learning happened without effort because they were constantly exposed to these activities from childhood. Things have changed over the years. Many young people now prefer daily wage work or seek employment outside the village. As a result, fewer children spend time in the forest, and

opportunities to learn traditional practices have become limited. He felt that this knowledge cannot be acquired in a short period. It develops only through patience, repeated practice, and years of direct experience. Without that connection to the forest, an important part of the community's heritage may slowly disappear.

Forest plants continue to play an important role in the treatment of common illnesses within the community. He spoke about plants such as *thottavadi* and *thumba*, which are used to manage problems like stomach pain, fever, and skin diseases. The elders know how to prepare these remedies and when they should be used. Although hospitals and modern medicines are now more easily available, traditional remedies are still used for minor health problems. At the same time, he admitted that fewer people possess this knowledge today. As older generations pass away, much of this medicinal knowledge may also disappear if younger members of the community do not learn it.

Speaking about food habits, he felt that uncultivated foods are healthier than foods purchased from shops because they grow naturally without chemical fertilizers or pesticides. He remembered that older people in the community regularly consumed these foods and were physically strong throughout their lives. Forest foods were especially valuable during times when there was little food available at home. Whenever families experienced food shortages, the forest provided enough resources to help them manage. Although ration supplies and market foods have reduced dependence on uncultivated foods, he still believes that these foods remain healthier and more nutritious than many commercially available alternatives.

Towards the end of the conversation, he spoke about the relationship between the Kattunayikka community and the forest. Collecting forest resources has always been guided by respect for nature. People take only what is needed and avoid damaging plants unnecessarily. This practice has been followed for generations and is considered an important responsibility rather than simply a rule. However, he expressed concern that outsiders have increasingly begun collecting medicinal plants and other valuable forest resources for commercial purposes. Such activities, he felt, could reduce the availability of these resources for the community that has traditionally depended on them.

As the interview came to a close, Mr. T reflected on the future of uncultivated food foraging. He felt that losing this knowledge would mean losing much more than a source of food. It would weaken the community's connection with the forest and gradually affect its cultural identity. His hope is that the younger generation will once again spend time with their elders,

learn the traditional practices of foraging, and continue to care for the forest in the same way that previous generations have done. For him, protecting the forest and preserving traditional knowledge are inseparable, because one cannot survive without the other.

CASE 2

Mr. M is an elderly member of the Kattunayikka community residing in a settlement in the Sulthan Bathery region of Wayanad district. He has spent his entire life in close association with the forest and has been practising uncultivated food foraging from a very young age. Throughout the interview, he spoke with great familiarity about the forest, reflecting the close relationship that he and his community have maintained with nature over generations. For Mr. M, the forest is not simply a place where food is collected but an important part of everyday life that provides food, medicine, and knowledge. Although changes have occurred over time, he continues to practise foraging whenever he gets the opportunity, and whatever is collected is mainly used for household consumption.

Recalling his childhood, Mr. M explained that going to the forest was a normal part of growing up in the Kattunayikka community. As a child, he regularly accompanied his parents and elders whenever they went to collect wild foods. Through these visits, he slowly learned about the forest and its resources. Nobody taught him through books or formal education. Instead, he observed what the elders collected, listened to their instructions, and gradually learned through experience. According to him, this has always been the traditional way in which knowledge is passed from one generation to another. The elders taught them where to find edible plants, how to identify them, the correct season for collecting them, and the safest methods of harvesting them without damaging the forest.

Mr. M explained that uncultivated food foraging continues to be an important activity within the community. Even though they do not visit the forest every day, they continue to collect forest foods whenever time and circumstances permit. The collected foods are mainly consumed within the household and are not gathered for commercial purposes. He described the forest as a place rich in different varieties of edible plants and explained that tubers form one of the most important food sources for the community. Among the commonly collected tubers are *kattukizhangu*, *koovakkizhangu*, *bonnikizhangu*, *noorakizhangu*, *kachil*, sweet potatoes, and several other wild yam varieties. In addition to tubers, naturally growing leafy vegetables are also collected according to seasonal availability. During the rainy season, mushrooms such as *Karadi Koon* and *Ari Koon* become available in the forest and are collected for food. Honey, bamboo shoots, gooseberries, and several seasonal fruits are also gathered whenever they are available and are used as part of the family's regular diet.

While describing the process of collecting wild foods, Mr. M emphasized that the community depends entirely on indigenous knowledge. They do not identify plants by their scientific names but recognize them by observing their leaves, stems, shape, colour, and the places where they naturally grow. According to him, every edible plant has its own characteristics, and these are learned only through long years of experience. If they come across an unfamiliar plant or mushroom, they never collect it because they cannot be certain whether it is safe for consumption. He explained that the elders possess much greater knowledge than the younger members of the community and are able to identify plants accurately even when only small parts of the plant are visible. This knowledge has been passed from one generation to another through continuous interaction with the forest.

Apart from providing food, Mr. M described the forest as an important source of traditional medicine. He explained that many plants available in the forest are used for treating common health problems. For ailments such as cough, fever, stomach pain, and skin diseases, they continue to depend on locally available medicinal plants. He mentioned plants such as *thottavadi*, tobacco, *erukku*, *muyalcheviyan*, *anacheviyan*, and the bark of the mango tree as some of the commonly used remedies. Another medicinal plant known locally as *karimarunnu Maram* is traditionally used for hair care and to reduce dandruff. According to him, earlier generations depended almost entirely on these herbal remedies because modern medical facilities were not easily accessible. Although people now visit hospitals more frequently, many families still continue to use traditional medicines for minor illnesses because they trust their effectiveness and have inherited this knowledge from their elders.

Mr. M also shared his views regarding the nutritional value of uncultivated foods. He believes that these foods are healthier than those purchased from shops because they grow naturally in the forest without the use of chemical fertilizers or pesticides. He recalled that the elders in the community regularly consumed these foods and remained physically strong throughout their lives. Although food habits have gradually changed and people have become more dependent on market foods and ration supplies, he continues to believe that forest foods contribute positively to health and well-being.

Speaking about seasonal variations, Mr. M explained that the availability of uncultivated foods changes throughout the year. During summer, only a limited number of food resources are available, particularly tubers. Honey is usually collected during the months of February and March. With the arrival of the first rains, collecting tubers becomes easier because the soil

becomes soft. The rainy season is considered the most favourable period for foraging because different varieties of mushrooms, leafy vegetables, and tubers become available in abundance. Although the rainy season brings difficulties such as slippery paths and leeches, many people continue to visit the forest because it is the period when the greatest variety of wild foods can be collected.

As the conversation continued, Mr. M reflected on the changes he has witnessed over the years. He explained that earlier it was possible to collect many edible plants close to the settlement. Today, community members often have to walk long distances into the forest before finding the same resources. Even after travelling deeper into the forest, they may not always find what they are looking for. He believes that several factors have contributed to this change. Climate patterns have changed over the years, affecting the growth of many plants. Forest access has also become more restricted than in the past. At the same time, fewer members of the community are actively involved in foraging, and many of the food resources are also consumed by wild animals, reducing their availability for human use.

One of the issues that Mr. M discussed in detail was the growing problem of human-wildlife conflict. According to him, fear of wild animals has become one of the greatest challenges associated with uncultivated food foraging. Elephants are the animals they fear most because encounters have become increasingly common. He recalled a painful incident in which a child from the community was seriously injured after being attacked by an elephant. The child sustained severe injuries to the hip, and the incident created fear among everyone in the settlement. Mr. M also explained that elephants frequently enter residential areas, damage fences, and sometimes stand very close to their houses. Because of such experiences, the community has become much more cautious while entering the forest. Before beginning a foraging trip, they carefully observe the surroundings for signs such as footprints, broken branches, and other indications of animal movement. If they suspect that elephants or other dangerous animals are nearby, they avoid entering the forest until it is considered safe.

Another concern expressed by Mr. M was the declining interest of younger generations in uncultivated food foraging. He explained that children no longer accompany their parents and grandparents to the forest as frequently as they did in earlier times. Many young people now prefer daily wage work and migrate to places such as Coorg and Begur in search of employment. As a result, opportunities to learn traditional foraging practices have reduced considerably. According to Mr. M, the knowledge of the forest cannot be learned within a short

period. It requires continuous observation, practical experience, and close interaction with elders over many years. He worries that if the younger generation does not continue these practices, much of the traditional knowledge possessed by the community may gradually disappear.

Towards the end of the interview, Mr. M reflected on the community's relationship with the forest. He explained that the Kattunayikka people have always respected the forest and believed that it should be protected for future generations. They collect only the amount of food required for household consumption and avoid destroying plants unnecessarily. According to him, the community considers itself to be a part of the forest and believes that people should use its resources responsibly. He also expressed concern that outsiders increasingly enter the forest to collect medicinal plants for commercial purposes, particularly for Ayurvedic use, which has reduced the availability of certain medicinal plants traditionally used by the community.

Concluding the interview, Mr. M expressed hope that the forest would remain healthy and continue to provide food and medicinal plants for future generations. He believes that uncultivated food foraging is much more than a means of obtaining food. It represents the community's culture, traditional knowledge, and close relationship with the forest. He hopes that younger members of the Kattunayikka community will once again develop an interest in learning these practices from their elders so that this valuable indigenous knowledge continues to be preserved and passed on to future generations.

CASE 3

Mrs. K is an elderly woman belonging to the Kattunayikka community residing in a settlement in Wayanad district. Throughout the interview, she often compared the life she lived during her younger days with the situation that exists today. Most of her memories revolved around the forest and the way it shaped the daily lives of the community. She recalled that, during those years, collecting uncultivated foods was not considered a separate activity or occupation. It was simply part of everyday life. The forest was the family's source of food, and almost every household depended on it.

She remembered that, in those days, people entered the forest almost every day to collect food. Tubers, leafy vegetables, mushrooms, honey, and seasonal fruits were commonly gathered and prepared at home. Unlike today, they did not have to walk long distances in search of these foods. Many edible plants were available close to the settlement, and people rarely returned empty-handed. According to her, the forest was abundant, and the community knew exactly where different food resources could be found.

One of the happiest memories she shared was the experience of going to the forest together. She recalled that people never preferred to go alone. Family members, relatives, neighbours, and others from the settlement usually entered the forest as a group. These journeys were not only meant for collecting food but also became occasions where people spent time together. They talked, laughed, helped one another, and shared stories while walking through the forest. She felt that these collective foraging trips strengthened relationships within the community and created a sense of togetherness among everyone. For her, the forest was more than a place that provided food; it was also a space where people shared happiness and maintained strong social bonds.

Learning about the forest happened naturally during these visits. Mrs. K explained that no one received formal instruction about wild foods. Children accompanied their parents and grandparents from a young age, carefully observing how they searched for edible plants and how they identified safe foods. By repeatedly watching the elders, they gradually became familiar with different plants and the places where they grew. She mentioned that they never depended on scientific names. Instead, plants were recognised by their appearance, their leaves, and the locations where they naturally occurred. Even today, she continues to follow the same knowledge. Whenever she comes across an unfamiliar plant, she prefers not to collect it, believing that only plants known to the community should be used for food.

As the conversation progressed, Mrs. K repeatedly spoke about the changes that have taken place over the years. She felt that the forest no longer provides the same abundance of food that it once did. Earlier, many uncultivated foods could be collected without travelling far, whereas today people have to walk deeper into the forest and spend more time searching. Even after covering long distances, they often return with very little. In her opinion, the availability of many wild food resources has gradually declined.

She believed that this change is not caused by a single reason. One important factor, according to her, is that people themselves are no longer depending on the forest as they did in the past. Earlier, almost every household practised foraging because there were very few alternative sources of livelihood. Today, many members of the community have taken up daily wage work and other occupations outside the settlement. While speaking about the younger generation, she mentioned that many young boys are now involved in local band groups. They travel to temples and other programmes to perform and earn an income. Since they have found other ways of making a living, they rarely accompany the elders into the forest. She felt that their interest in foraging has gradually reduced, and because of this, traditional knowledge is no longer being passed on in the same way.

Fear of wild animals has also become an important reason for the decline in foraging. Mrs. K explained that elephants are now a major concern for the community. Although wild animals have always been part of the forest, she believes that encounters have become more frequent and more frightening. People are no longer able to enter the forest with the same confidence they once had. Before going for foraging, they carefully consider whether elephants have been seen nearby. At times, elephants even come close to the settlement, creating fear among families living there. These experiences have made many people reluctant to enter the forest unless it is absolutely necessary.

While describing the different uncultivated foods still collected by the community, Mrs. K mentioned tubers such as sweet potato, *kachil*, *kirangu*, *unnikizhangu*, and *kaattukizhangu*. These continue to be important food resources for the household whenever they are available. She explained that the season determines what can be collected from the forest. Summer is the most difficult period because the soil becomes dry and hard, making it difficult to dig out tubers. As a result, fewer people go for foraging during those months. The rainy season, on the other hand, is considered the best time for collecting food. The soil becomes soft, making it

easier to gather tubers, and different varieties of mushrooms appear throughout the forest. Compared with summer, the monsoon provides greater opportunities for foraging.

Mrs. K also spoke about the changing climate and its influence on the forest. She felt that rainfall patterns are no longer the same as they were in the past. Because of these seasonal changes, some plants that were once commonly available have become difficult to find, while the availability of others has reduced considerably. She believed that these environmental changes have directly affected the community's ability to depend on uncultivated foods.

Another concern she expressed was the gradual disappearance of traditional knowledge. She remembered that children once learned naturally because they spent time in the forest with their elders. Today, very few children participate in these activities. Their interests have shifted towards education, employment, and other opportunities outside the settlement. She worried that if this continues, future generations may never develop the knowledge required to identify, collect, and use uncultivated foods. In her view, this knowledge represents much more than a method of finding food. It reflects the community's identity, culture, and long-standing relationship with the forest.

Mrs. K also explained that the forest continues to provide medicinal plants used for treating common illnesses. Traditional remedies for stomach pain, fever, and skin problems are still known within the community, although their use has declined over time. She observed that many families now depend more on hospitals and modern medicines than on traditional healing practices. As a result, the knowledge held by the elders is slowly disappearing.

While reflecting on food and health, she expressed the belief that uncultivated foods are healthier than foods purchased from the market. These foods grow naturally without chemical fertilizers or pesticides, and she believes that this contributed to the good health and physical strength of earlier generations. Although food habits have changed, she continues to value forest foods for their nutritional benefits and considers them an important part of the community's traditional diet.

Towards the end of the interview, Mrs. K spoke about her hopes for the future. She wished to see the forest remain healthy and continue providing food for the community. More importantly, she hoped that children and young people would once again develop an interest in learning traditional foraging practices from their elders. For her, protecting the forest and preserving traditional ecological knowledge are inseparable. If the younger generation loses its

connection with the forest, an important part of the Kattunayikka community's culture and way of life will disappear along with it.

CASE 4

Mrs. V belongs to the Kattunayikka community and lives in one of the settlements in Wayanad district. Throughout the conversation, she spoke about the close relationship her community has maintained with the forest for generations. She recalled that the forest had always been a part of everyday life, providing food, medicine, and many other resources needed by the family. According to her, uncultivated food foraging is not a practice that began recently but one that has been followed by their ancestors for generations. Although many families continue to collect wild foods today, she feels that the practice is gradually disappearing.

As she spoke about the different foods collected from the forest, she listed several varieties of tubers such as *Bunni Kizhangu*, *Noora Kizhangu*, and other edible roots that continue to be used in their households. During the rainy season, mushrooms become available, while leafy vegetables, bamboo shoots, wild fruits, and honey are collected whenever the season permits. She pointed out that many of these foods cannot be purchased from shops and that they have remained part of the community's diet because of their nutritional value and health benefits. For her family, these foods are collected mainly for household consumption rather than for sale.

Mrs. V remembered how this knowledge was learned from childhood. There was no formal teaching or written record. Children accompanied their parents and grandparents whenever they went to the forest. By walking with them, watching how they searched for plants, and listening to their explanations, they slowly learned to recognise edible species. She said that tubers are often identified by their leaves and the rope-like stems spreading across the forest floor. Experienced people can recognise these signs immediately, while someone unfamiliar with the forest may walk past them without noticing anything. This knowledge has survived only because elders continued to pass it on to younger members of the community.

When she spoke about the past, her memories were filled with images of people travelling together into the forest. Men, women, and children usually went as a group, walking long distances in search of food. Those journeys were never limited to collecting wild foods alone. They were occasions where people shared stories, discussed everyday life, and learned from one another. Elders used those opportunities to teach children about the forest, different plant species, and the right seasons for collection. She smiled while recalling those days and felt that the forest had once brought the whole community together.

Mrs. V also spoke about the respect that the community has always shown towards the forest. People collected only what was needed for their families and avoided damaging plants unnecessarily. They believed that the forest should continue to provide food not only for the present generation but also for those who came after them. She felt that this understanding helped maintain a healthy relationship between the community and the forest.

While remembering those years, she often compared them with the present situation. According to her, people no longer travel deep into the forest as they once did. Most collections are now limited to areas close to the settlements because many food resources have become difficult to find. She believes that changes in the environment, along with the reduction of forest resources, have affected the availability of many uncultivated foods that were once common.

Climate change was another concern she spoke about. She felt that rainfall patterns have changed considerably over the years, affecting the growth of many plants and mushrooms. Foods that were once available in abundance during particular seasons are now found only occasionally. Because of these changes, families can no longer depend on the forest in the same way as earlier generations did.

Another reason for the decline in foraging, in her opinion, is the increasing presence of wild animals. People are now more hesitant to enter the forest because encounters with elephants and other wildlife have become more frequent. This fear has reduced the willingness of many families to travel long distances in search of forest foods.

Mrs. V also reflected on the changes taking place within the community itself. Earlier, people spent much of their time in the forest, but today many men depend on daily wage work and other occupations outside the settlement. Since they are busy with work, women now undertake most of the responsibility for collecting tubers, leafy vegetables, mushrooms, and other available foods whenever they find time. Even then, she felt that foraging is no longer practised as regularly as before.

The younger generation worried her the most. She felt that many young people are moving towards education and employment outside the community. While she appreciated the opportunities available to them, she also believed that spending less time in the forest has reduced their interest in learning traditional practices. As fewer young people accompany the elders, the knowledge of identifying plants, understanding seasons, and collecting uncultivated foods is gradually fading.

Mrs. V also spoke about another issue that she believes is affecting community life. She felt that alcoholism has become more common than before and has reduced people's participation in traditional activities. According to her, when people move away from their customary practices, they also move away from the knowledge that those practices carry. She feared that much of the wisdom held by the elders may disappear if it is not passed on soon.

Even after speaking about these challenges, she remained hopeful. She believes that uncultivated food foraging is much more than collecting food. It represents the history of the Kattunayikka community, their knowledge of the forest, and the relationship they have maintained with nature for generations. She hopes that younger people will once again spend time with the elders, learn these practices, and continue protecting both the forest and the knowledge that has shaped their community for generations.

CHAPTER V

THEMATIC ANALYSIS AND DISCUSSION

5.1 INTRODUCTION

Thematic analysis is a qualitative data analysis method used to systematically identify, analyse, and interpret patterns of meaning within a dataset. Braun and Clarke (2006) define thematic analysis as "a method for identifying, analysing and reporting patterns (themes) within data." In the present study, thematic analysis was used to analyse the interview data and organise the findings into meaningful themes.

This chapter includes main themes such as:

- The Practice and Significance of Uncultivated Food Foraging
- Diversity of Wild Edible Resources
- Seasonal Patterns and Methods of Collection
- Nutritional and Medicinal Value of Wild Foods
- Indigenous Knowledge and Its Transmission
- Challenges in Foraging Practices
- Sustainability and Conservation

5.2 PROFILE OF THE RESPONDENTS

The four respondents in this study belong to the Kattunayikka community of Wayanad district. The participants consisted of two men and two women between the ages of 50 and 70 years. They were purposively selected based on their extensive indigenous knowledge of uncultivated food resources and their long-term involvement in traditional foraging practices. All the respondents have been practising foraging from a very young age and possess rich knowledge regarding the identification, collection, seasonal availability, medicinal uses, and sustainable harvesting of wild food resources. Their experiences reflect the traditional ecological knowledge preserved within the Kattunayikka community and provide valuable insights into the cultural significance, health benefits, and contemporary challenges associated with uncultivated food foraging.

5.3 ANALYSIS AND DISCUSSION

5.3.1 The Practice and Significants of Uncultivated Food ForagingUncultivated food foraging has been an integral part of the Kattunayikka community for generations. The findings of the study reveal that foraging is not merely an activity carried out for obtaining food but a practice deeply embedded in the community's everyday life, cultural identity, and relationship

with the forest. Although all four respondents acknowledged that the dependence on forest foods has reduced over the years, they unanimously viewed foraging as an important part of their traditional way of life.

The respondents recalled that during their younger days, the forest was their primary source of food. Tubers, leafy vegetables, mushrooms, bamboo shoots, honey, and seasonal fruits formed an essential part of their daily diet. Forest resources were collected mainly for household consumption rather than for commercial purposes. As Mr. M recalled,

"From our childhood onwards, we have been going to the forest and collecting food. It is part of our life. Even now, we go whenever we get time. We mainly collect for our home use, not for selling."

Similarly, Mrs. K remembered that the community depended heavily on the forest in the past because uncultivated foods were easily available near their settlements.

"Earlier, in our younger days, we used to go to the forest very often. It was part of our daily life. Almost every day, we would go for collecting food. Whatever we needed, we used to get from the forest."

These narratives show that uncultivated food foraging was closely linked to household food security. The forest supplied a variety of edible resources that complemented the family's daily meals. Unlike present times, when market foods and public distribution systems are more accessible, the respondents described a period when the forest itself fulfilled many of the community's nutritional needs.

The significance of foraging, however, extends beyond food collection. The findings indicate that the practice also served as an important social activity that strengthened relationships within the community. Mrs. K explained that people rarely entered the forest alone. Families, neighbours, and other members of the settlement travelled together, making foraging a collective experience rather than an individual task.

"We used to go as a group. Family members, neighbours, and others from the colony would go together. It was not just about collecting food but also about being together."

She further shared that these journeys created happiness and strengthened the bond among community members. The forest became a space where people worked together, exchanged

experiences, and supported one another while collecting food. Such collective practices also provided opportunities for younger members to learn from elders in a natural setting.

Mr. T shared a similar experience and described how children gradually became familiar with the forest through regular visits with their parents and grandparents. Learning occurred naturally while walking through the forest, observing plants, and assisting elders during collection. According to him,

"This is something that we learned by living here, not by studying anywhere. Our parents and elders used to take us along, and through that, we slowly understood the forest."

The narratives suggest that foraging functioned as an informal learning process in which knowledge, values, and cultural practices were transmitted through everyday participation. The forest was not simply a place where food was gathered; it was also the setting in which indigenous knowledge and cultural identity were nurtured.

Mrs. V also reflected on the collective nature of foraging. She recalled that men, women, and children travelled together into the forest, and these trips were occasions where elders shared stories, explained the uses of different plants, and taught younger generations about the environment. She believed that these experiences played an important role in preserving the community's traditions and strengthening their connection with the forest.

Another important finding emerging from the respondents' narratives is the emotional and cultural significance attached to foraging. The respondents consistently described the forest as more than a physical environment. It represents their history, identity, and ancestral heritage. Mr. T explained that uncultivated food foraging is closely connected with the Kattunayikka way of life and that losing these practices would mean losing an important part of their culture. Mrs. V also expressed similar concerns, stating that foraging reflects the knowledge and traditions inherited from previous generations and should be preserved for the future.

Although all respondents continue to practise foraging, they acknowledged that its importance in daily life has changed. Earlier, families depended almost entirely on forest resources for food. Today, wage employment, government ration supplies, changing food habits, and improved access to markets have reduced this dependence. Nevertheless, the respondents

continue to collect uncultivated foods whenever possible because they consider them healthier, natural, and culturally significant.

Mr. T observed,

"Forest food is part of our daily life, even now."

Likewise, Mrs. V explained that many of the wild foods collected from the forest cannot be purchased from markets and continue to hold an important place in the community's food culture because of their nutritional value and traditional importance.

The findings also indicate that uncultivated food foraging continues to contribute to food security, particularly during periods when cultivated food resources are limited. Several respondents recalled that forest foods had once helped families manage situations of food scarcity. Even though dependence on these resources has declined, they continue to supplement household diets with naturally available foods that are free from chemical cultivation.

The present findings are consistent with the work of Berkes (2018), who argues that traditional subsistence practices among indigenous communities represent complex systems of knowledge, culture, and environmental relationships rather than simple methods of obtaining food. Similarly, Narayanan et al. (2011), in their study among tribal communities in Wayanad, documented that the Kattunayikka continue to depend on a wide variety of wild edible plants that contribute to nutrition, food security, and cultural continuity. Deb et al. (2013) also observed that traditional food foraging strengthens community resilience while preserving indigenous knowledge and biodiversity.

The findings further reflect the concept of traditional ecological knowledge, where food collection is inseparable from cultural practices, environmental understanding, and sustainable resource use. For the Kattunayikka community, uncultivated food foraging is not simply an economic activity but a way of maintaining a long-standing relationship with the forest. The practice embodies knowledge accumulated over generations and continues to shape the community's identity despite changing social and economic conditions.

The study shows that uncultivated food foraging remains an important cultural practice among the Kattunayikka community. While its role as the primary source of food has gradually diminished, its cultural, social, and ecological significance remains strong. The respondents

viewed the practice as a symbol of their identity, a means of maintaining their connection with the forest, and an important source of indigenous knowledge that deserves to be preserved for future generations.

5.3.2 Diversity of Wild Edible Resources

Forests provide indigenous communities with a wide variety of edible resources that contribute to their food systems and traditional way of life. The diversity of wild edible plants reflects not only the richness of the forest ecosystem but also the community's extensive knowledge of identifying, collecting, and utilising these resources. For the Kattunayikka community, different categories of wild foods such as tubers, leafy vegetables, mushrooms, fruits, bamboo shoots, and honey continue to hold nutritional, cultural, and ecological significance. The respondents described a broad range of uncultivated food resources that have been traditionally used by the community for generations.

Among the different categories of wild foods, tubers emerged as the most commonly collected resource across all four cases. Every respondent described tubers as an important part of their traditional diet and identified several locally known varieties. Mr. T explained that different tubers grow under different environmental conditions and that experienced foragers are able to locate them by observing small signs such as leaves, stems, or the surrounding vegetation. He stated,

"We commonly collect kachil, kizhangu, koovakizhangu, ponnikizhangu, noorakizhangu and bunnikizhangu. Each of these grows in different places. Sometimes only a small leaf or a thin stem will be visible, but from that we understand what is inside the soil."

Similarly, Mr. M mentioned collecting wild yam, arrowroot, bonnikizhangu, noorakizhangu, sweet potato, and several other tubers that are commonly available in the forest. Mrs. K also identified sweet potato, kachil, kirangu, unnikizhangu and kaattukizhangu as important food resources collected throughout the year depending on their seasonal availability. Mrs. V referred to tubers such as bunni kizhangu, noora kizhangu and other edible roots, explaining that these continue to be collected whenever available. The consistency of these responses indicates that tubers remain one of the most significant uncultivated food resources within the Kattunayikka community.

Apart from tubers, the respondents identified a wide variety of wild leafy vegetables that are regularly consumed. These include cheera, ullicheera, kaakkachepp, sambarcheera and several

other naturally growing greens. These vegetables are collected fresh from the forest and prepared as part of everyday meals. Unlike cultivated vegetables, the respondents described these greens as naturally available and free from chemical inputs. Although the varieties mentioned differed slightly among the respondents, all of them acknowledged that leafy vegetables continue to form an important component of their traditional diet.

Mushrooms were another major category of wild edible resources discussed by the respondents. They explained that different varieties become available during the rainy season, making this period particularly important for mushroom collection. Mr. T mentioned varieties such as vellaram koon, ari koon and karadi koon, while Mr. M also referred to karadi koon and ari koon as commonly collected mushrooms. The respondents emphasised that only familiar varieties are collected because certain mushrooms are poisonous. As Mr. T explained,

"We do not collect all mushrooms. Only the ones we know well. Some mushrooms are harmful, so we are careful."

This finding demonstrates that mushroom collection depends not only on availability but also on accurate identification based on traditional knowledge developed through years of experience.

The respondents also described several other forest resources that contribute to household food consumption. Honey was identified by all four respondents as an important forest product, although they explained that honey collection requires specialised knowledge and considerable experience. Mr. T observed that fewer people now participate in honey collection compared to earlier generations because of the risks involved. Bamboo shoots, including mulakkoombu and illikoompu, were also frequently mentioned as seasonal foods collected at the appropriate stage of growth. In addition, the respondents referred to seasonal fruits such as navalpazham (jamun) and gooseberries, which are collected whenever they become available in the forest.

Beyond edible foods, the respondents also described the medicinal value of several forest plants. Although these species are primarily recognised for their healing properties, they form an important part of the community's overall knowledge of forest resources. Plants such as thottavadi, thumba, muyalcheviyan, erukku and the bark of the mango tree were mentioned as traditional remedies for stomach pain, fever, skin diseases, dandruff and other common ailments. The respondents explained that this knowledge has been inherited from elders and continues to be used, particularly for minor illnesses.

An important finding emerging from the study is that the respondents classify wild food resources according to their practical uses rather than scientific categories. They identify plants through local names, physical appearance, habitat, seasonal occurrence, taste, and traditional uses. None of the respondents referred to scientific names; instead, identification depended entirely on observation and experience. This illustrates the depth of traditional ecological knowledge within the community and demonstrates that indigenous systems of classification remain highly functional in everyday life.

The findings also indicate that diversity in wild edible resources contributes significantly to dietary diversity. Rather than depending on a single food source, the Kattunayikka community utilises different categories of foods throughout the year according to seasonal availability. Tubers provide carbohydrates, leafy vegetables contribute vitamins and minerals, mushrooms offer additional nutrients, while honey, fruits and bamboo shoots supplement the diet during different seasons. Such diversity reduces dependence on any one resource and reflects the community's adaptive use of the forest ecosystem.

The respondents further observed that the availability of several wild edible resources has declined compared to earlier years. According to them, some plant species have become increasingly difficult to locate because of environmental changes, climate variability, forest degradation and increased human activities. Nevertheless, they continue to possess detailed knowledge regarding the identification and use of these resources, demonstrating that traditional ecological knowledge has persisted despite ecological and social change.

These findings are consistent with the study conducted by Narayanan et al. (2011), which documented 165 species of wild edible plants used by tribal communities in Wayanad, including the Kattunayikka. The study reported that wild foods comprise a wide range of tubers, leafy vegetables, mushrooms, fruits, seeds and medicinal plants that contribute substantially to household nutrition and food security. Similarly, Deb et al. (2013) observed that indigenous communities maintain remarkable knowledge of locally available food biodiversity, enabling them to utilise diverse natural resources sustainably. Berkes (2018) also argues that traditional ecological knowledge enables indigenous communities to recognise ecological diversity through continuous interaction with the environment, allowing them to adapt resource use according to seasonal and environmental conditions.

The findings of the present study demonstrate that the diversity of wild edible resources extends beyond the availability of different food items. It reflects an indigenous system of ecological

knowledge developed through generations of observation and interaction with the forest. The ability to identify, collect and utilise a wide range of uncultivated foods highlights the ecological competence of the Kattunayikka community and their deep understanding of the surrounding environment. Although environmental and social changes have affected the availability of several resources, the diversity of wild edible foods continues to remain an important component of the community's traditional food system and cultural heritage.

5.3.3 Seasonal Pattern and Method of Collection

The availability and collection of uncultivated food resources are closely associated with seasonal variations in the forest ecosystem. Indigenous communities have traditionally relied on their knowledge of seasonal cycles to identify the appropriate time and method for collecting different wild edible resources. Among the Kattunayikka community, this knowledge has been developed through continuous interaction with the forest and guides their foraging practices throughout the year. The respondents described how seasonal changes influence the availability of wild foods as well as the methods adopted for their collection.

The findings of the study indicate that uncultivated food foraging among the Kattunayikka community is closely influenced by seasonal changes. The availability of wild edible resources varies throughout the year, and the respondents demonstrated detailed knowledge of the appropriate seasons for collecting different foods. Their narratives show that decisions regarding when and how to collect forest resources are based on long-term observation of the natural environment rather than fixed routines. This seasonal understanding forms an important component of their traditional ecological knowledge.

All four respondents explained that the rainy season is the most favourable period for foraging. During this season, a greater variety of wild foods becomes available, particularly mushrooms and tubers. The softening of the soil after rainfall makes it easier to dig out tubers, while favourable moisture conditions support the growth of different mushroom species. Mr. T explained:

"In the rainy season, more items are available. Mushrooms grow well, and the soil becomes soft, so it is easier to dig and take tubers."

Mr. M shared a similar view, stating that many varieties of mushrooms, including *Karadi Koon* and *Ari Koon*, are available only during the rainy season. He also mentioned that tubers become easier to collect after the first rains because the soil is no longer hard.

Mrs. K also described the importance of the monsoon season for foraging. According to her, the rainy season provides better opportunities to collect both mushrooms and tubers, making it the most productive period for gathering forest foods. Although leeches, slippery paths, and continuous rainfall create certain difficulties, these challenges do not discourage people from entering the forest because food availability is much higher during this period.

In contrast, all respondents identified summer as the most difficult season for foraging. During this period, the soil becomes dry and compact, making it difficult to dig for tubers. The availability of many wild edible plants also decreases considerably. Mrs. K explained:

"During the summer season, it becomes very difficult. The soil becomes very hard because of the heat, and we are not able to dig and take out the tubers easily."

Similarly, Mr. T noted that only a few food resources remain available during summer, resulting in fewer visits to the forest. The respondents also observed that seasonal changes have become less predictable in recent years. They felt that irregular rainfall and changing climatic conditions have affected the natural growth cycle of many edible plants and mushrooms. According to Mrs. V, several foods that were once abundant during particular seasons are now available only in small quantities or sometimes not at all.

Apart from understanding seasonal availability, the respondents demonstrated detailed knowledge regarding the methods used to collect different forest resources. They explained that successful foraging depends on careful observation of the surrounding environment. Tubers are identified through subtle signs such as leaves, creeping stems, and the condition of the soil. Experienced foragers are able to recognise edible plants even when only a small part of the plant is visible above the ground. Mr. T explained:

"Sometimes only a small leaf or a thin stem will be visible, but from that we understand what is inside the soil."

This ability reflects years of practical experience and cannot be acquired without continuous interaction with the forest.

The respondents further explained that different food resources require different collection methods. Bamboo shoots are harvested only during a particular stage of growth because they become unsuitable for consumption if collected too early or too late. Mushroom collection requires careful identification, as only familiar varieties are considered safe to eat. Honey collection was described as one of the most demanding activities, requiring specialised skills, experience, and courage. The respondents noted that not everyone in the community engages in honey collection because of the risks involved.

Another important aspect of the collection process is ensuring personal safety while entering the forest. Before beginning a foraging trip, experienced members observe the surroundings for signs of wildlife such as elephant footprints, broken branches, or fresh animal movements. If there is evidence of elephants or other dangerous animals, they postpone the collection until the area is considered safe. Mr. M recalled that elephant attacks have become a major concern in recent years and have made people more cautious about entering the forest. These safety practices demonstrate that methods of collection involve not only locating edible resources but also assessing environmental risks.

The findings also show that the methods of collection reflect the community's traditional conservation practices. The respondents consistently stated that they collect only the quantity required for household consumption and avoid damaging plants unnecessarily. Mature resources are harvested carefully, while younger plants are left undisturbed to ensure future growth. This practice reflects an understanding that forest resources should be used responsibly so that they remain available for future generations.

The present findings are consistent with Berkes (2018), who explains that traditional ecological knowledge is built upon long-term observation of seasonal cycles, species behaviour, and ecological processes. Indigenous communities develop resource management practices that are closely adapted to environmental changes and local ecosystems. Similarly, Narayanan et al. (2011) observed that tribal communities in Wayanad possess detailed knowledge regarding the seasonal availability of wild edible plants and employ specific collection techniques that allow sustainable use of forest resources. Pundir and Dhan Singh (2002) also noted that indigenous communities time their collection activities according to seasonal changes, ensuring both food availability and conservation of natural resources.

The findings of the present study demonstrate that seasonal knowledge and methods of collection are closely interconnected. The respondents do not collect resources randomly; instead, they make decisions based on the season, weather conditions, plant growth, and environmental safety. This knowledge has developed through continuous interaction with the forest over several generations and continues to guide the foraging practices of the Kattunayikka community. Although changing climatic conditions and increasing environmental challenges have affected the availability of many resources, the traditional knowledge associated with seasonal patterns and collection methods remains an important part of the community's indigenous ecological knowledge.

5.3.4 Nutritional and Medicinal Value of Wild Foods

Wild edible foods have long been recognised as an important source of nutrition and traditional healthcare among indigenous communities. Besides contributing to food security, many uncultivated plants are valued for their medicinal properties and are commonly used to prevent or treat minor illnesses. For the Kattunayikka community, the knowledge of food and medicine is closely connected, with several forest resources serving both nutritional and therapeutic purposes. The respondents described wild foods not only as part of their daily diet but also as an important element of their traditional health practices.

All four respondents considered uncultivated foods to be healthier than cultivated or commercially available foods. They explained that these foods grow naturally in the forest without the use of chemical fertilizers or pesticides, making them safer and more nutritious. Mr. M shared that forest foods continue to be included in their daily meals whenever available because they are considered healthy and nutritious.

"Wild foods are good for health. Earlier, our elders were strong and healthy. We believe it is because of these foods. These foods are natural, without chemicals, so they are good for the body."

Mrs. K expressed a similar opinion. She recalled that previous generations depended largely on forest foods and believed that this contributed to their strength and good health. According to her, although food habits have changed over the years, the community still regards uncultivated foods as healthier than many foods purchased from outside.

Mrs. V also highlighted the nutritional importance of wild foods, explaining that they supplement the household diet with a variety of natural foods that are not commonly available in local markets. She mentioned that tubers, mushrooms, leafy vegetables, bamboo shoots, honey, and seasonal fruits provide diversity in their diet and continue to hold an important place in their food culture.

The respondents identified several categories of foods that contribute to their nutrition. Tubers were described as an important staple food, especially during periods when cultivated food was limited. Leafy vegetables are regularly consumed as part of daily meals, while mushrooms provide an additional seasonal food source during the monsoon. Honey and wild fruits are collected whenever available and are valued both for their taste and nutritional benefits. Together, these resources contribute to a varied and balanced traditional diet.

Apart from their nutritional value, the respondents attached considerable importance to the medicinal uses of forest plants. They explained that many plants found in the forest are traditionally used to manage common health problems. Mr. T explained that plants such as *thottavadi* and *thumba* are used to treat stomach pain, fever, and skin diseases. He noted that this knowledge has been passed down by elders through generations and continues to be practised by some families.

"We also use forest plants for medicine. There are plants like thottavadi and thumba. These are used for small health problems like stomach pain, skin issues and fever."

Mr. M also described the use of several medicinal plants available in the forest. According to him, plants such as *thottavadi*, *erukku*, *muyalcheviyan*, and the bark of the mango tree are commonly used for treating stomach pain, fever, skin problems, and hair-related conditions. He explained that although community members may not know the scientific names of these plants, they clearly understand their local names, methods of preparation, and medicinal uses.

Mrs. V shared similar experiences regarding traditional herbal medicine. She stated that many elders continue to use forest plants to treat minor illnesses before seeking hospital care. However, she also observed that dependence on these remedies has gradually declined as access to modern healthcare has increased. Despite this change, she felt that traditional medicinal knowledge remains valuable because it represents generations of experience and close interaction with the forest environment.

The findings also suggest that medicinal knowledge is largely concentrated among the older members of the community. The respondents repeatedly mentioned that elders possess detailed knowledge about identifying medicinal plants, preparing remedies, and determining the appropriate method of use. However, they expressed concern that younger generations are becoming less familiar with these practices because they spend less time in the forest and rely more on modern medicine.

Another important observation emerging from the study is that the respondents do not clearly separate food from medicine. Several uncultivated foods are consumed not only because they satisfy hunger but also because they are believed to improve health and prevent illness. This reflects a holistic understanding of well-being, where everyday foods contribute to both nutrition and healing. Such perspectives are deeply rooted in indigenous knowledge systems and continue to influence the community's food practices.

The findings are supported by Narayanan et al. (2011), who documented that many wild edible plants used by tribal communities in Wayanad possess both nutritional and medicinal properties. Their study reported that uncultivated foods contribute significantly to dietary diversity while also serving as traditional remedies for various health conditions. Similarly, Krishnakumar and Ceasar (2022) observed that several species of wild mushrooms consumed by indigenous communities are rich in nutrients and have considerable medicinal potential. Berkes (2018) further argues that traditional ecological knowledge integrates food, health, and environmental understanding into a single system, where knowledge of natural resources contributes to both nutrition and community well-being.

The findings demonstrate that uncultivated foods are valued not only because they are readily available in the forest but also because of their nutritional and medicinal significance. The respondents continue to recognise the health benefits of these foods and the healing properties of many forest plants. Although changing lifestyles and greater dependence on modern healthcare have reduced the use of traditional remedies, the knowledge associated with these resources remains an important part of the Kattunayikka community's indigenous knowledge system. Preserving this knowledge is essential, as it reflects generations of experience regarding the sustainable use of forest resources for food, nutrition, and health.

5.3.5 Indigenous Knowledge and its Transmission.

Indigenous knowledge is an integral part of the cultural heritage of indigenous communities and is developed through continuous interaction with the natural environment over generations. It encompasses the knowledge, skills, and practices related to the identification, collection, preparation, and sustainable use of natural resources. Among the Kattunayikka community, knowledge related to uncultivated food foraging is largely transmitted through observation, participation, and oral tradition rather than through formal education. The respondents explained how this knowledge has been passed from elders to younger generations and discussed the challenges affecting its continuity.

All four respondents explained that their knowledge of uncultivated food foraging was acquired during childhood by accompanying parents, grandparents, and other elders into the forest. None of them learned these practices through formal education. Instead, learning occurred naturally through observation and participation in everyday activities. Mr. T explained:

"This is something that we learned by living here, not by studying anywhere. Our parents and elders used to take us along, and through that, we slowly understood the forest."

Similarly, Mr. M recalled that from childhood onwards, he accompanied elders during foraging trips, gradually learning to identify edible plants, understand seasonal availability, and distinguish safe plants from harmful ones. He explained that this knowledge cannot be learned from books but only through practical experience in the forest.

The respondents consistently described indigenous knowledge as practical and experience-based. They explained that identifying edible tubers, mushrooms, medicinal plants, and other forest resources requires years of observation and familiarity with the forest ecosystem. Mr. T mentioned that experienced foragers are able to identify tubers by observing small leaves or creeping stems, while those unfamiliar with the forest would not even notice these signs. This demonstrates that indigenous knowledge is deeply rooted in continuous interaction with the environment.

Another important aspect emerging from the narratives is the role of oral tradition in transmitting knowledge. The respondents explained that elders shared information while travelling through the forest, demonstrating how different plants should be collected,

processed, and used. Mrs. V described the forest as a place where children learned by observing adults rather than through structured teaching. She explained that stories, practical demonstrations, and repeated participation helped younger generations develop an understanding of the forest and its resources.

Mrs. K also remembered that foraging was a collective activity involving family members and neighbours. According to her, these group visits created opportunities for children to observe experienced foragers and gradually learn traditional practices.

"We used to go as a group. Family members, neighbours and others from the colony would go together. Elders would show us which plants to collect, which ones to avoid, and how to use them."

The respondents expressed concern that this process of knowledge transmission is gradually weakening. They observed that younger generations spend less time in the forest and show limited interest in learning traditional foraging practices. According to Mr. M, many young people now seek wage employment outside the settlement, while others migrate for work. Mrs. K explained that many youngsters are involved in band groups and other occupations, leaving little opportunity to accompany elders into the forest.

Mr. T shared similar concerns:

"Knowing the forest is not something that can be learned in one or two days. It needs time and practice. If they do not come to the forest, they will not learn these things."

Mrs. V also believed that changing lifestyles, education, employment opportunities, and increased dependence on market foods have reduced young people's involvement in foraging. She felt that unless opportunities are created for intergenerational learning, much of this indigenous knowledge may gradually disappear.

The respondents further explained that indigenous knowledge extends beyond food collection. It includes understanding animal behaviour, seasonal changes, medicinal plants, sustainable harvesting practices, and respecting the forest ecosystem. This broader ecological understanding enables the community to use forest resources responsibly while maintaining a close relationship with nature.

The findings are consistent with Berkes (2018), who describes Traditional Ecological Knowledge as a cumulative body of knowledge, practices, and beliefs that develops through long-term interaction between communities and their environment and is transmitted across generations through cultural traditions. Similarly, UNESCO (2017) recognises indigenous knowledge as an important form of intangible cultural heritage that is primarily passed through oral traditions, observation, and practical experience. Deb et al. (2013) also observed that the continuity of traditional ecological knowledge depends largely on active participation of younger generations in everyday subsistence practices.

The findings of the present study indicate that indigenous knowledge remains central to uncultivated food foraging among the Kattunayikka community. However, the gradual decline in intergenerational transmission poses a significant challenge to the continuity of these practices. Preserving this knowledge requires not only documenting traditional practices but also encouraging opportunities for younger generations to actively engage with elders and the forest environment. Such efforts are essential for sustaining both the community's cultural heritage and its traditional ecological knowledge.

5.3.6 Challenges in Foraging Practice

Uncultivated food foraging has undergone significant changes over the years due to various environmental, social, and economic factors. Although the Kattunayikka community continues to practise foraging, the respondents described several challenges that have made the practice increasingly difficult. These challenges include the growing threat of wild animal attacks, declining availability of wild edible resources, climate change, restrictions on forest access, changing livelihood patterns, and the declining interest of younger generations. Together, these factors have affected both the frequency of foraging and the continuity of traditional knowledge.

One of the most frequently discussed challenges was the increasing presence of wild animals, particularly elephants. All four respondents identified human–wildlife conflict as the greatest obstacle to entering the forest. They explained that fear of elephant attacks has reduced people's confidence to travel deep into the forest for collecting food.

Mr. M shared a painful incident from his settlement.

"One time, an elephant attacked a child from our area. He got badly injured. After that, everyone became more afraid to go into the forest."

He further explained that elephants often enter the settlements and even come close to their houses, making daily life uncertain. Because of this, people carefully observe signs of animal movement before entering the forest and avoid foraging whenever they feel it is unsafe.

Mrs. K also explained that although wild animals were present in the past, the situation has become more serious in recent years. According to her, the fear of encountering elephants discourages many community members from travelling into deeper forest areas.

Another major concern raised by all the respondents was the declining availability of wild edible resources. They recalled that many plants, tubers, mushrooms, and other edible resources were once found close to their settlements. Today, they have to walk longer distances, and even then, the quantity of food collected is often much less than before.

Mrs. K explained:

"Earlier, many things were available near our place. Now we have to walk long distances and go deep into the forest. Sometimes even after going far, we don't get much."

Similarly, Mrs. V observed that several food resources which were abundant in the past have become increasingly difficult to locate. The respondents associated this decline with changes in the forest environment, increasing pressure on natural resources, and changing climatic conditions.

Climate change emerged as another important challenge affecting foraging practices. The respondents observed noticeable changes in rainfall patterns, seasonal variations, and temperature over the years. According to them, these environmental changes have directly influenced the growth and availability of many uncultivated food resources.

Mrs. K explained that rainfall is no longer as predictable as it was in earlier years, affecting the availability of mushrooms and tubers during their usual seasons. Mr. T also shared similar concerns, stating that changes in weather conditions have reduced the availability of several forest foods that were once commonly collected.

Restrictions on forest access were also identified as a challenge. Some respondents explained that earlier generations had greater freedom to move within the forest, whereas access has become more restricted over time. These restrictions have reduced opportunities to collect wild foods from areas that were traditionally used by the community.

Economic changes within the community have further influenced foraging practices. The respondents explained that many people now depend on daily wage labour and other occupations for their livelihood. As a result, they have less time available for foraging compared to previous generations.

Mrs. V explained that men who previously participated regularly in foraging are now engaged in wage employment, while women continue to collect forest foods whenever possible. Mr. M also noted that many community members now prefer paid employment because it provides a more regular source of income.

The declining interest among younger generations emerged as another common concern across all four cases. The respondents felt that young people are increasingly moving away from traditional occupations and are less interested in learning forest-based practices.

Mr. T observed:

"Knowing the forest is not something that can be learned in one or two days. It needs time and practice. If they do not come to the forest, they will not learn these things."

Mrs. K similarly explained that children no longer accompany elders into the forest as they once did. Instead, many young people seek employment outside the settlement or pursue other interests, resulting in fewer opportunities to learn traditional ecological knowledge.

Some respondents also expressed concern about outsiders collecting valuable medicinal plants from the forest. They felt that excessive extraction of these resources by people outside the community could reduce their availability for the Kattunayikka, who have traditionally depended on them for food and medicine.

The findings of the present study are consistent with previous research. Narayanan et al. (2011) reported that tribal communities in Wayanad face increasing challenges due to habitat degradation, reduced availability of wild edible plants, and changing socio-economic

conditions. Berkes (2018) also argues that indigenous knowledge systems are increasingly threatened by environmental change, changing livelihoods, and reduced interaction between younger generations and the natural environment. Similarly, Deb et al. (2013) observed that modernization, climate change, and declining dependence on forest resources have contributed to the erosion of traditional foraging practices among indigenous communities.

The findings shows that the challenges affecting uncultivated food foraging are closely interconnected. Environmental changes, wildlife conflicts, reduced forest access, livelihood transitions, and the gradual loss of indigenous knowledge collectively influence the continuation of this traditional practice. Despite these difficulties, the respondents continue to value foraging as an important part of their culture and identity and expressed the need to preserve both the practice and the knowledge associated with it for future generations.

5.3.7 Sustainability and Conservation

The sustainability of uncultivated food foraging depends on the responsible use of forest resources and the preservation of indigenous knowledge. For the Kattunayikka community, the forest is not merely a source of food but an integral part of their livelihood, culture, and identity. The respondents explained that their traditional foraging practices are guided by values of respect for nature and sustainable resource use. They emphasised that the forest should be protected so that its resources remain available for future generations.

A common practice shared by all four respondents was that they collect only the quantity of food required for household consumption. They explained that unnecessary harvesting or destruction of plants is avoided. Mr. M stated:

"We try to protect the forest. We don't destroy plants. We take only what we need. We see ourselves as part of the forest."

Similarly, Mr. T explained that this practice has been followed from the time of their elders and continues to guide their relationship with the forest.

"We always take care not to harm the forest. We collect only what we need. We do not destroy plants unnecessarily. This is something we follow from our elders."

These responses indicate that conservation is embedded in their everyday practices rather than being a formally taught concept. Sustainable harvesting is viewed as a responsibility that ensures the continued availability of forest resources while maintaining the ecological balance of the forest.

The respondents also highlighted the importance of preserving biodiversity. They explained that collecting resources responsibly allows plants to regenerate naturally and ensures that sufficient food remains available for both wildlife and future generations. Several respondents mentioned that they avoid uprooting young plants and harvest resources only during the appropriate season, reflecting their understanding of the natural growth cycle of forest species.

Despite following sustainable practices themselves, the respondents expressed concern about the growing pressure on forest resources. Mr. M and Mr. T pointed out that outsiders entering the forest to collect medicinal plants and other valuable resources have become a major concern. They felt that excessive extraction by people outside the community reduces the availability of these resources for the Kattunayikka, who have traditionally depended on them for food and medicine.

Another concern raised by the respondents was the gradual decline in traditional ecological knowledge. They believed that conservation is closely linked to knowledge transmission. Unless younger generations learn responsible harvesting practices from their elders, the sustainable use of forest resources may gradually weaken. Mrs. V explained that protecting the forest is not only about conserving plants but also about preserving the knowledge that teaches people how to use those resources responsibly.

The respondents further observed that climate change, declining resource availability, and reduced interest in foraging among younger generations pose long-term challenges to the sustainability of traditional food systems. According to Mrs. K, if the younger generation does not continue these practices, both the knowledge and the relationship between the community and the forest may gradually disappear.

"For the future, we want the forest to remain healthy. Children should learn these practices and continue them. Only then this knowledge will not disappear."

Mrs. V also expressed a similar concern, stating that preserving uncultivated food foraging is essential not only for maintaining food traditions but also for safeguarding the cultural identity of the community. She believed that encouraging younger people to learn about forest resources would help ensure the continuity of these practices.

The findings of the present study are consistent with Berkes (2018), who argues that traditional ecological knowledge promotes sustainable resource management through long-term observation, cultural values, and responsible harvesting practices. Indigenous communities often develop conservation practices based on their close relationship with the environment rather than through formal environmental policies. Similarly, Deb et al. (2013) observed that indigenous food systems contribute significantly to biodiversity conservation because local communities harvest resources selectively and avoid practices that threaten ecosystem sustainability. Narayanan et al. (2011) also reported that the traditional harvesting practices of tribal communities in Wayanad play an important role in conserving wild edible plant diversity while supporting household food security.

The findings suggest that sustainability and conservation are inseparable from the traditional foraging practices of the Kattunayikka community. Their relationship with the forest is guided by values of respect, moderation, and responsibility, which have enabled the sustainable use of forest resources for generations. However, increasing environmental pressures, changing livelihoods, declining participation of younger generations, and external exploitation of forest resources threaten both the sustainability of these practices and the continuity of indigenous knowledge. Strengthening intergenerational knowledge transmission and promoting community-based conservation efforts are therefore essential for preserving the Kattunayikka's traditional food system and their long-standing relationship with the forest.

CHAPTER VI

FINDINGS SUGGESTIONS AND CONCLUSION

6.1 INTRODUCTION

The Kattunayikka community has traditionally maintained a close relationship with the forest, relying on uncultivated food resources for food, medicine, and everyday survival. Foraging is deeply rooted in their indigenous knowledge system and reflects their cultural identity, traditional lifestyle, and understanding of the forest ecosystem. However, rapid environmental changes, declining availability of wild edible resources, increasing human wildlife conflicts, changing livelihood patterns, and the reduced participation of younger generations have gradually influenced the continuity of these traditional practices. Based on the experiences of members of the Kattunayikka community, this study explores the practice and significance of uncultivated food foraging, the diversity of wild edible resources, seasonal patterns of collection, the nutritional and medicinal value of wild foods, the transmission of indigenous knowledge, the challenges affecting foraging practices, and the community's perspectives on sustainability and conservation. The study also highlights the importance of preserving traditional ecological knowledge and the close relationship between the community and the forest in the face of changing social and environmental conditions.

The primary findings of the study are presented in this chapter according to the research objectives that guided the study. The chapter further offers suggestions for strengthening the preservation of indigenous knowledge, promoting sustainable foraging practices, and conserving wild edible resources within the Kattunayikka community. The conclusion summarises the major findings of the study and emphasises the need to recognise, document, and preserve the traditional ecological knowledge associated with uncultivated food foraging so that this valuable cultural heritage can be sustained for future generations.

6.2 FINDINGS

Specific Research Question No. 1:

What are the traditional practices and indigenous knowledge related to uncultivated food foraging among the Kattunayikka community?

Uncultivated food foraging remains an important part of the Kattunayikka community's traditional way of life and reflects their long-standing relationship with the forest. All four respondents shared that they have been involved in foraging since childhood. Their knowledge was acquired by accompanying parents, grandparents, and elders into the forest, where they learned through observation, participation, and everyday experience rather than through formal

education. This knowledge has been passed from one generation to the next through oral tradition and continuous interaction with the forest.

The respondents demonstrated detailed knowledge of a wide range of wild edible resources, including tubers, mushrooms, leafy vegetables, bamboo shoots, honey, fruits, and medicinal plants. They described how edible species are identified by observing leaves, vines, stems, and other natural features. They also emphasised that unfamiliar plants are never collected, as recognising safe and edible species requires years of experience. Along with plant identification, they possess a clear understanding of the seasonal availability of different resources and the appropriate time and method for collecting them.

Knowledge of the forest is not limited to food collection. The respondents described the use of several forest plants to treat common ailments such as stomach pain, fever, cough, skin problems, and hair-related conditions. They also spoke about harvesting only what is needed for household use and avoiding unnecessary damage to plants, reflecting a traditional approach to conserving forest resources.

Although these practices continue among older members of the community, there is growing concern about the gradual decline of indigenous knowledge. According to the respondents, younger generations spend less time in the forest because of education, wage employment, and changing lifestyles. As opportunities to learn directly from elders become fewer, the transfer of traditional knowledge is weakening. Uncultivated food foraging continues to represent an important part of the Kattunayikka community's cultural heritage, traditional ecological knowledge, and connection with the forest, despite the challenges affecting its continuity.

Specific Research Question No. 2:

What are the seasonal patterns, collection practices, and availability of uncultivated food resources among the Kattunayikka community?

The availability of uncultivated food resources is closely influenced by seasonal variations in the forest ecosystem. The Kattunayikka community possesses detailed knowledge of seasonal cycles, enabling them to identify the appropriate time and methods for collecting different wild edible resources. This knowledge, developed through continuous interaction with the forest, continues to guide their foraging practices.

The responders consistently described the rainy season as the most favourable period for foraging. According to them, a greater variety of wild foods, particularly mushrooms, tubers, leafy vegetables, and bamboo shoots, becomes available during this season. Mr. T explained that the soil becomes soft after rainfall, making it easier to dig out tubers, while the moisture supports the growth of different mushroom species. Similarly, Mr. M shared that mushrooms such as *Karadi Koon* and *Ari Koon* are mainly available during the rainy season, and the first rains make the collection of tubers much easier. In contrast, Mrs. K pointed out that summer is the most difficult period for foraging because the soil becomes hard, making it difficult to dig for tubers, and the availability of most wild foods declines considerably.

The participants also described the traditional methods used to collect uncultivated foods. Mr. T explained that experienced foragers identify tubers by carefully observing leaves, vines, and other subtle signs found on the forest floor. Mrs. V stated that each resource has its own season and should be collected only at the appropriate stage of growth. She also noted that mushrooms are gathered only after proper identification, while bamboo shoots are harvested only when they are suitable for consumption. Mr. M further explained that honey collection requires experience and specialised skills and is therefore carried out only by individuals who are familiar with the practice. Before entering the forest, both Mr. M and Mr. T mentioned that they observe elephant footprints, broken branches, and other signs of animal movement to assess whether the area is safe for foraging.

All four participants reflected on the noticeable decline in the availability of wild edible resources over the years. Mrs. K recalled that many edible plants, tubers, and mushrooms were once found close to the settlement, whereas people now have to walk long distances into the forest and still return with fewer resources. Mrs. V associated this decline with changing rainfall patterns, climate change, and reduced forest resources. Mr. M highlighted increasing human–wildlife conflict and restrictions on forest access as additional factors limiting foraging activities. Likewise, Mr. T observed that several resources which were commonly available in the past have become increasingly difficult to find. Although the availability of uncultivated foods has declined, the participants continue to rely on their traditional seasonal knowledge to determine when, where, and how different forest resources should be collected.

Specific Research Question No. 3:

How are uncultivated food plants used for nutritional and medicinal purposes within the Kattunayikka community?

Uncultivated food plants continue to contribute to the nutritional wellbeing of the Kattunayikka community by supplementing their daily food requirements. Mr. M, Mrs. K, and Mrs. V described forest foods as an important part of their diet, particularly tubers, leafy vegetables, mushrooms, bamboo shoots, honey, and seasonal fruits. These foods are valued because they are naturally available and free from chemical inputs. Mr. M recalled that earlier generations depended more on these resources and believed that their regular consumption helped maintain good health and physical strength. Although the community now has access to ration supplies and market foods, wild foods continue to be consumed whenever they are available.

The participants also described the continued use of forest plants in traditional healthcare. Mr. T explained that plants such as *Thottavadi* and *Thumba* are commonly used to manage stomach pain, fever, and skin-related conditions. Mr. M referred to the use of mango tree bark, *Karimarunnu Maram*, *Muyalcheviyan*, *Erukku*, and other locally known plants for treating digestive problems, hair-related conditions, and minor illnesses. Mrs. K added that herbal remedies remain a common choice for treating simple health problems within the community before seeking hospital care.

The participants indicated that knowledge regarding medicinal plants is largely held by older members of the community. According to Mr. T and Mrs. V, elders possess detailed knowledge about identifying medicinal plants, preparing remedies, and determining their appropriate use. However, they observed that younger generations have limited exposure to these practices because they spend less time in the forest and rely more on modern healthcare facilities. As a result, traditional medicinal knowledge is gradually declining.

The accounts of all four participants show that food and medicine are closely connected within the Kattunayikka community. Many of the same forest resources serve both nutritional and therapeutic purposes, reflecting a holistic understanding of health that has been sustained through generations. Despite the continued importance of these practices, the increasing dependence on modern food systems and healthcare services has reduced their everyday use, raising concerns about the preservation of this indigenous knowledge.

Specific Research Question No. 4:

What changes and challenges influence uncultivated food foraging among the Kattunayikka community?

Uncultivated food foraging within the Kattunayikka community has been influenced by several environmental, social, and economic changes over time. Although the practice continues among older members of the community, it is no longer carried out with the same frequency or dependence as in earlier years. The experiences of Mr. T, Mr. M, Mrs. K, and Mrs. V indicate that declining forest resources, changing occupations, climate variability, human–wildlife conflict, and the gradual loss of indigenous knowledge have significantly affected traditional foraging practices.

According to Mrs. K and Mrs. V, wild edible plants that were once easily available near their settlements have become increasingly difficult to find. Community members now travel deeper into the forest and spend more time searching for food than in the past. Mr. M attributed this decline to changing rainfall patterns and seasonal irregularities, which have affected the growth of tubers, mushrooms, and other edible plants. Forest access has also become more restricted, reducing opportunities to collect uncultivated foods.

Safety within the forest has become another major concern. Mr. T and Mr. M described elephants as the greatest threat faced during foraging activities. Elephant movement near settlements and frequent encounters inside the forest have created fear among community members. Mr. M referred to an incident in which a child from the settlement sustained serious injuries following an elephant attack, illustrating the risks associated with entering the forest. As a result, foraging is often avoided when signs of wild animals are present.

Economic changes have also altered the community's dependence on the forest. Mrs. K observed that many adults now engage in daily wage labour and other occupations, leaving little time for foraging. Mrs. V noted that younger people increasingly seek employment outside the settlement, while Mr. M pointed out that migration for work has reduced their involvement in traditional forest-based activities. These changes have limited opportunities for younger generations to learn practical foraging skills from elders.

The participants also expressed concern about the gradual erosion of indigenous knowledge. Mr. T believed that knowledge developed through years of experience cannot be acquired without regular interaction with the forest. Mrs. V felt that the reduced participation of children and young people in foraging activities has weakened the transfer of traditional knowledge across generations. She further observed that increasing alcohol consumption within the

community has affected participation in cultural practices and community life. In addition, concerns were raised about outsiders collecting medicinal plants from the forest, which may further reduce the availability of these resources for the Kattunayikka community.

Taken together, these experiences indicate that uncultivated food foraging is being shaped by multiple and interconnected challenges. Environmental changes, safety concerns, livelihood transitions, and the weakening transmission of indigenous knowledge have all contributed to the gradual decline of this traditional practice, raising concerns about its continuity in the future.

6.3 SUGGESTIONS

Indigenous communities possess a wealth of traditional ecological knowledge that has evolved through generations of interaction with the natural environment. Among the Kattunayikka community, this knowledge is reflected in the practice of uncultivated food foraging, which contributes to food security, traditional healthcare, and biodiversity conservation. Nevertheless, environmental changes, changing livelihood patterns, and the gradual decline in the transmission of indigenous knowledge have created new challenges for sustaining these practices. The suggestions derived from the research are as follows.

- Develop community-based knowledge transmission programmes that encourage elders to teach children and youth through guided forest visits, practical demonstrations, and seasonal foraging activities. Such initiatives can strengthen intergenerational learning and help sustain traditional foraging practices.
- Strengthen the conservation of wild edible plant habitats through collaboration between the Forest Department and the Kattunayikka community. Community participation in conservation planning can help protect biodiversity while ensuring continued access to traditional food resources.
- Develop measures to reduce human–wildlife conflict in traditional foraging areas by improving wildlife monitoring, strengthening early warning systems, and supporting safe access to forests. This would reduce risks faced by community members during foraging activities.
- Recognise uncultivated food foraging as part of indigenous cultural heritage and integrate it into Tribal Development programmes. This would support the preservation

of traditional practices while acknowledging the cultural and ecological significance of indigenous food systems.

- Support sustainable livelihood initiatives linked to traditional ecological knowledge by creating opportunities that complement forest-based practices rather than replace them. Such initiatives can reduce the decline in foraging while improving the economic security of indigenous households.

6.4 CONCLUSION

Forests have long formed the foundation of indigenous livelihoods, supplying food, medicine, and the knowledge required for day-to-day survival. For the Kattunayikka community, uncultivated food foraging is more than a way to secure daily nourishment; it is deeply embedded in their cultural life, traditions, and enduring relationship with the forest. The understandings tied to these practices are the outcome of many generations of experience and continue to guide how the community engages with its natural environment.

This study focused on the traditional practices and indigenous knowledge surrounding uncultivated food foraging among the Kattunayikka in Wayanad. It examined the range of wild edible species used, the seasonal timing of their collection, the nutritional and medicinal significance of forest foods, the processes through which knowledge is passed between generations, the various pressures affecting foraging, and the community's perspectives on sustainability and conservation.

The findings show that uncultivated food foraging still holds an important place in the community's everyday life, even though the ways it is practised have evolved. Skills such as identifying edible species, understanding seasonal changes, and using forest resources in a careful manner are acquired through ongoing contact with elders and the forest landscape itself. The study also reveals that these foods continue to support household diets and traditional healing practices, while embodying a cautious and respectful approach to nature.

At the same time, the research indicates that the survival of these practices is shaped by multiple interacting factors. Climate variability, the reduced presence of certain wild edible plants, rising conflicts with wildlife, shifts in employment and livelihood patterns, and the decreasing participation of younger community members all influence both foraging and the transfer of indigenous knowledge. If these concerns are not addressed, knowledge that has been safeguarded within the community for generations may slowly be lost.

By documenting the experiences and insights of the Kattunayikka, the study contributes to broader discussions on indigenous food systems. It shows that traditional ecological knowledge remains highly relevant to debates on food security, biodiversity conservation, and sustainable management of natural resources. The results also highlight the need to recognise indigenous communities as important knowledge holders whose perspectives can shape research agendas, public policy, and development programmes.

In sum, uncultivated food foraging among the Kattunayikka is not merely about gathering forest produce. It represents a distinct way of knowing, a cultural practice, and a mode of relating to the environment that has developed over many generations. Safeguarding this heritage involves caring both for forest ecosystems and for the communities who have maintained this knowledge through their everyday lives. Supporting the continuation of these practices can strengthen the cultural identity of the Kattunayikka and help preserve a valuable body of indigenous knowledge for the future.

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ANNEXURE

INTERVIEW GUIDE

- Introduce yourself and explain the purpose of the study.
- Inform the participant that their participation is voluntary and that the information shared will be kept confidential.
- Obtain informed consent before beginning the interview.

General Information

- Please tell us briefly about yourself.
- Could you describe your occupation and daily livelihood?
- How long have you been involved in collecting uncultivated (wild) food?
- Who taught you about wild food foraging?

Focus Areas

- Traditional Knowledge of Uncultivated Food Foraging
 - Knowledge of wild edible plants, fruits, tubers, mushrooms, honey, and other forest foods.
 - Identification, collection methods, and seasonal availability.
 - Transmission of knowledge across generations.
- Foraging Practices
 - Types of uncultivated foods commonly collected.
 - Places where food is collected.
 - Frequency and seasonal variations in foraging.
 - Gender and family roles in foraging activities.
- Significance of Uncultivated Food
 - Contribution to household food security.
 - Nutritional importance.

- Medicinal uses of wild foods.
- Cultural and traditional significance.
- Indigenous Ecological Knowledge
 - Knowledge related to forests, biodiversity, seasons, and sustainable harvesting.
 - Traditional conservation practices.
 - Beliefs and customs associated with forest resources.
- Challenges in Uncultivated Food Foraging
 - Decline in the availability of wild foods.
 - Climate change and environmental changes.
 - Forest access restrictions.
 - Human–wildlife conflicts.
 - Changes in younger generations' interest in foraging.
- Livelihood and Socio-economic Aspects
 - Role of uncultivated food in supporting household livelihood.
 - Dependence on forest resources.
 - Changes in livelihood patterns over time.
 - Alternative sources of income.
- Coping and Adaptation Strategies
 - Strategies adopted when wild food resources become scarce.
 - Changes in food consumption patterns.
 - Adaptation to environmental and social changes.
- Perceptions of Change
 - Changes observed in forest resources over the years.
 - Changes in traditional knowledge and practices.

- Future of uncultivated food foraging among the Kattunayikka community.

➤ Closing Questions

- Is there anything else you would like to share about uncultivated food foraging?
- What suggestions would you give for preserving traditional knowledge and protecting forest food resources?