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ETHNOBOTANY OF THE ASARA REGION OF KARAJ COUNTY, ALBORZ PROVINCE, IRAN: A MICRO LEVEL ANALYSIS

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Abstract: *Ethnobotany, the study of relationships between people and plants, plays a crucial role in understanding cultural and ethnic diversity. Plants are deeply woven into the cultural fabric of societies, with usage patterns, beliefs, and attitudes varying significantly across different communities. This research, explores the specific roles of plants in the Asara region of Karaj County, particularly focusing on their culinary, medicinal, and cultural uses in three villages: Pourkan, Aderan, and Khoozankala. Through a series of 15 visits, data were gathered using ethnobotanical methods, including initial questionnaires, participant observation, and in-depth interviews with 22 local residents. The findings, organized in tables and charts, aim to document the unique connections between local people and plants, reflecting the cultural significance of indigenous knowledge. By drawing upon both existing sources and direct input from the study population, this research sheds light on the intricate relationships that shape the daily lives, beliefs, and practices of the local communities in Asara. The study identified 80 plant species used by villagers, of which more than half served both edible and medicinal purposes. Edible-medicinal plants represented the largest functional group, followed by species with combined cultural, functional, and ritual roles. The data reveal a deeply integrated system of traditional knowledge that not only sustains daily life but also reinforces cultural identity and ecological adaptation in the Asara region.*

Key words: Ethnobotany, Anthropology, Folklore, Karaj Indigenous knowledge, Asara.

Introduction

Ethnobotany is an interdisciplinary field at the intersection of botany and anthropology, focusing on the dynamic and multifaceted relationships between human societies and the plant world. This discipline investigates how different cultures identify, use, and assign meaning to plant species, offering valuable insights into local ecological knowledge systems and the cultural adaptation of communities to their environments (Balick & Cox, 2020:1). Ethnobotanical research has become increasingly important in revealing how cultural and biological diversities are interwoven, particularly in traditional societies where plant use is deeply embedded in daily life, rituals, and healing practices (Albuquerque et al, 2019:15-16). Indigenous knowledge related to plant use, often transmitted orally across generations, represents a crucial component of cultural heritage and serves as a reservoir of sustainable ecological practices. However, the rapid processes of globalization, industrialization, and socio-economic transformation threaten the continuity of this traditional knowledge. As a result, the documentation and preservation of ethnobotanical knowledge have become urgent priorities for both cultural resilience and biodiversity conservation (Reyes-García & Benyei, 2019: 657). In regions such as Iran, ethnobotanical research has a longstanding tradition, with roots tracing back to early 20th-century botanical studies by pioneers like Ahmad Husayn Khan Adl (1889–1963) and Ahmad Parsa (1907–1997), who cataloged native flora and emphasized its cultural significance (Mozaffarian, 2007:344).

This research focuses on examining the cultural and diverse roles that plants play in three villages within the Asara region. Many plant species serve a wide array of purposes, utilized by people to meet both their material and spiritual needs. Some plants are valued for their nutritional, medicinal, or decorative properties, while others hold spiritual significance and are often referred to as 'sacred trees.' Additionally, certain plants are harvested for sale in local markets, herbal shops, and florists in nearby cities like Karaj, Shahriar, and Hashtgerd, underscoring the economic importance of these plants, which is especially vital for the financial well-being of rural families. This study investigates the ethnobotanical landscape of the Asara region in Karaj County, Alborz Province, an area where plant use is still closely tied to local identity, belief systems, and health-related practices. The study aims to highlight the urgency of safeguarding local knowledge systems by situating the research within this culturally and ecologically significant setting. The findings are expected to enrich the broader discourse on ethnobotany in Iran and to provide a foundation for culturally sensitive approaches to biodiversity conservation.

Research Methodology

This research aimed to preserve and scientifically identify local plant knowledge, aligning indigenous botanical understanding with scientific nomenclature and exploring the diverse applications of plants in the study area. The methodology employed in this research was predominantly qualitative, rooted in anthropological approaches. The study population comprised women and men aged 18 to 80 residing in three villages: Khoozankala, Aderan, and Pourkan, located in the Asara district of Karaj County. Participants were selected based on gender and age, ensuring a diverse sample in terms of occupation, education level, and ethnicity. In total, 80 plant species were documented and analyzed with respect to their culinary, medicinal, and cultural uses. A snowball sampling technique was utilized, beginning with key informants, such as village elders, who possessed extensive knowledge of local plant species and their properties. Subsequent interviews were conducted with a broader range of villagers. It's worth noting that women constituted the majority of informants due to their more active roles in plant gathering, food preparation, and herbal medicine. Data was collected through both documentary and fieldwork methods. Documentary research provided an initial

framework for the study (Alexiades, 1996:53-94) However, the bulk of the data was gathered through fieldwork, employing the various techniques such as direct observation, participant observation, questionnaires, in-depth interviews, herbarium creation, rapid appraisal process (RAP), and data analysis.

Geographic Location

Karaj is one of Iran's major cities and the capital of both Alborz Province and Karaj County. Situated in a mountainous region, Karaj is located at an elevation of 1300 meters above sea level in the foothills of the Alborz mountain range. The city is bordered by Mazandaran Province to the north, Shahriar County and Markazi Province to the south, Savojbolagh County and Qazvin Province to the west, and Tehran County to the east. With geographic coordinates of 51° and 0' and 30" east longitude and 35° and 48' and 45" north latitude, Karaj is located 48 kilometers northwest of Tehran. The city covers an area of 175.4 km^2 and is surrounded by a buffer zone of 178.9 km^2 . It is located in the central Alborz mountain range and serves as the administrative center of Karaj County.

Vegetation Cover

Due to its mountainous and plain regions and diverse climate, Karaj exhibits a wide range of agricultural products. The northern slopes of the Alborz mountains, particularly in the villages of Shahrestanak and Arang, are characterized by lush pastures, natural vegetation, fruit orchards, and sparse forests. In the southern regions, such as Ashtarad and Muradabad, cotton and grains are cultivated, and livestock farming is prevalent. Given the hot and dry climate in the plains and the temperate climate in the mountains, the predominant vegetation in the foothills and plains includes various thorny mints, woodruff, alfalfa, psyllium, spinach, hollyhock, iris, and poppy.

Research Findings

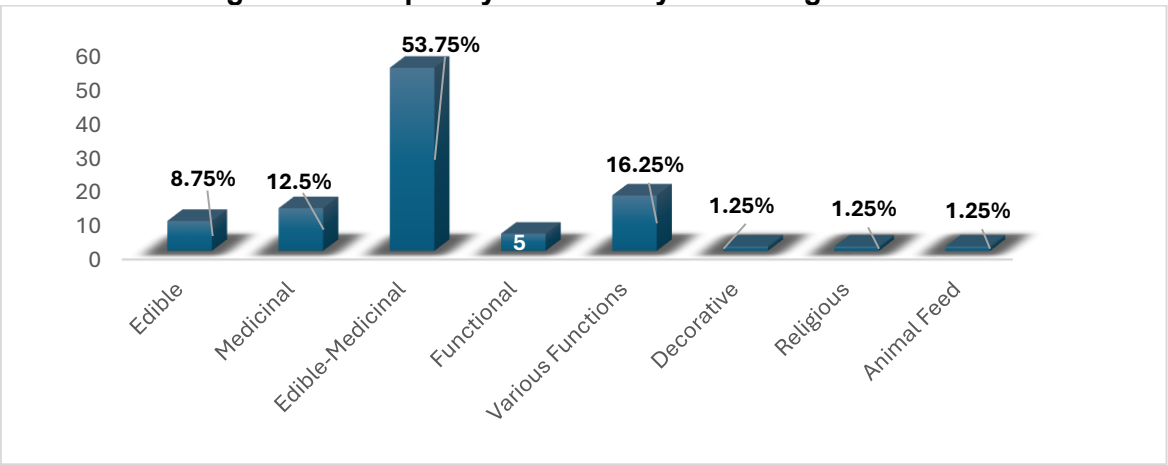
Most of the plants studied in this research have multiple uses, particularly culinary and medicinal, in traditional societies and specifically in the selected villages of Pourkan, Aderan, and Khoozankala. Plants with a single function, such as solely culinary or medicinal use, are less common. Plants with medicinal properties primarily serve as preventive measures against diseases rather than providing complete cures. According to Figure 8, out of the 80 plant specimens collected, 57 (71 percent) were wild-growing, while 23 (29 percent) were cultivated. These findings highlight the significant role of wild-growing plants in the subsistence livelihoods of rural households, indicating a substantial contribution to household economies. (Cámara-Leret et al, 2019) As shown later in Figure 8, out of the 80 plant specimens collected. The frequency and percentage of various plants of all species by functions in the Asara region is presented in Table 01.

Table 01: Plants by type of functions

Function Type	Frequency	Percentage
Edible	07	08.75
Medicinal	10	12.50
Edible-Medicinal	43	53.75
Functional	04	05.00
Various functions (including edible, medicinal, and functional)	13	16.25
Decorative	01	01.25
Religious	01	01.25
Animal food	01	01.25
Total	**80**	**100.00**

Source: Field Survey. Compiled by Author

Figure 01: Frequency of Plants by Percentage Function



Based on the data presented in the table and chart, the functions of plants are distinctly categorized and analyzed. Of the 80 species of plant-based samples collected, the predominant category is the oral-pharmaceutical function, encompassing 43 items, which constitutes 53percent of the total sample. This high proportion underscores the critical importance of the oral-pharmaceutical applications of plants relative to their solely medicinal or oral uses. Specifically, plants used exclusively for medicinal purposes total 10 species, accounting for 12.50 percent, while those used solely for oral purposes number 7 species, representing 8.75 percent. Plants with multifaceted functions—including those used for food, medicine, animal feed, functional purposes, belief-related purposes, and decoration-altogether make up 16.25 percent of the total sample collection. Additionally, four plants serve functional roles, such as providing wood for tool and implementing manufacturing, including species like the Tabrizi tree, Gavan, and Sepidar and Manja, comprising 5 percent. Only one plant is identified for its decorative function (Waha), one for animal feed, and one for its belief function (Mesram), with each of these categories representing 1.25 percent. These findings highlight the diverse functional roles of plants, with a notable emphasis on their oral-pharmaceutical applications.

Botanical Symbolism in Local Poetry and Proverbs

Ethnography is distinctive in its exploration of non-human relationships, such as those between humans and plants. Ethnobotany, in particular, offers captivating narratives about the intricate connections between people and nature. A fundamental aspect of studying local cultures involves immersing oneself in the daily lives of communities, and documenting their customs, behaviors, and artifacts. Folklore studies play a pivotal role in this endeavor. To gain a deeper understanding, the author tried to delve local idioms, proverbs, and poetry related to plants. Local poetry and songs reflect the pure and embodied sentiments of rural people, evoking a profound emotional response in listeners. These local verses and proverbs, unique to each region, mirror the thoughts, beliefs, desires, hopes, and aspirations of the local inhabitants.

The Role of Plants in Iranian Ceremonies and Celebrations

This section aims to investigate the significance of plants in Iranian rituals and celebrations. We explore the intricate relationship between humans and plants during joyous occasions, mourning rituals, and ancient traditions, examining how nature and surrounding flora contribute to these events. A distinguishing feature of Iranian festivities is the profound respect and reverence for natural elements. These rituals often exhibit a harmonious coexistence between humans and plants, devoid of any form of violence or mistreatment towards flora.

The types of plants and their roles within various cultural and economic contexts shape distinct lifestyles. The continuity of human existence is intrinsically linked to the vitality of plant life. For instance, the utilization of plants in various magical rites, national and religious festivals, religious ceremonies, and burial rituals, both traditional and modern, underscores this interconnectedness. Iranian national and religious celebrations, while rooted in joy and festivity, also draw upon deep-seated ancient beliefs. These celebrations are closely intertwined with climatic conditions and the surrounding natural environment, often grounded in cosmic beliefs. The celebration of Nowruz, the Persian New Year, exemplifies this connection, holding a special place in Iranian culture. (Boyce, 1979:117; Shahbazi, 2005).

Botanical Applications in Cosmetics and Adornment

Plants, as rich repositories of sacred symbolism, have held a prominent place in Iranian culture. Their diverse properties have ensured their reverence and utilization across various ethnic groups in this vast region. The vibrant hues of plants have been extensively employed in personal adornment, including hair and body decoration, as well as for depilation.

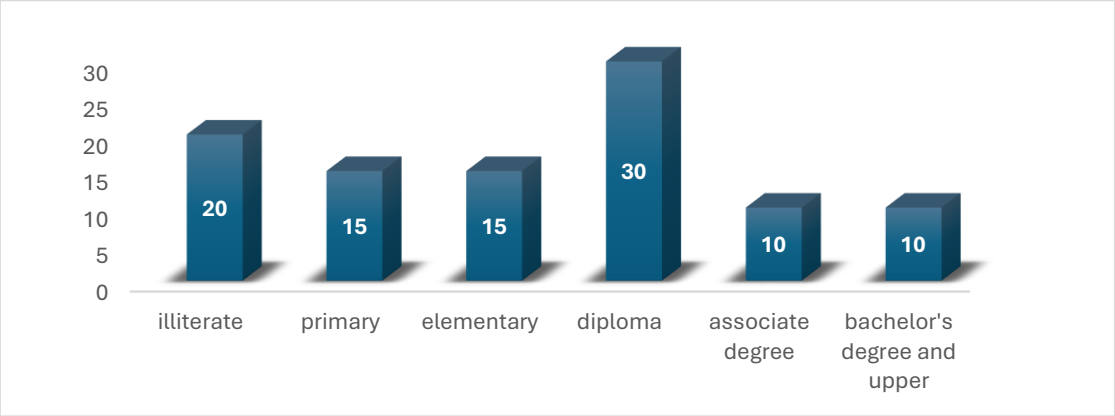
Botanical Dyes in Textile Production

Natural dyes, sourced from plants, flowers, seeds, leaves, and roots, have been integral to textile production across cultures. The Iranians were particularly adept at dyeing, utilizing highly stable and vibrant natural colorants in their textiles (Mansour & Kairouan, 2018:75–102). For centuries, natural dyes were a significant export commodity. Workshops throughout the country processed plant-based dyes such as madder, woad, walnut husk, and pomegranate, while merchants exported excess dye to foreign markets. Textiles dyed with natural plant-based dyes possess an enduring allure and beauty that not only withstands the passage of time but often deepens in richness and luminosity with exposure to light and alkaline substances. These traditional colors, born from centuries of experimentation and inspired by nature, carry both intrinsic and extrinsic value .(Cardon, 2007:123)

Data Analysis

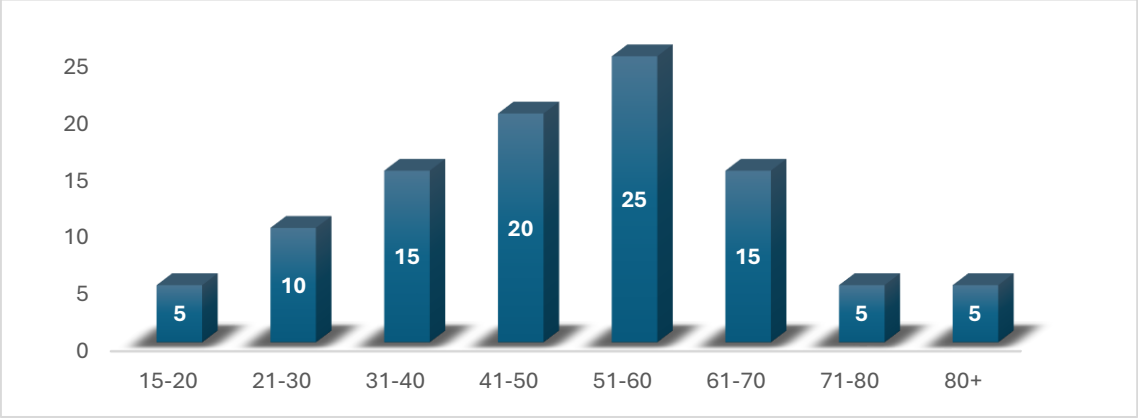
A typological analysis of the data revealed the following findings regarding educational attainment, age, ethnicity, and gender.

Figure 02; Frequency Distribution of Informants by Educational Attainment



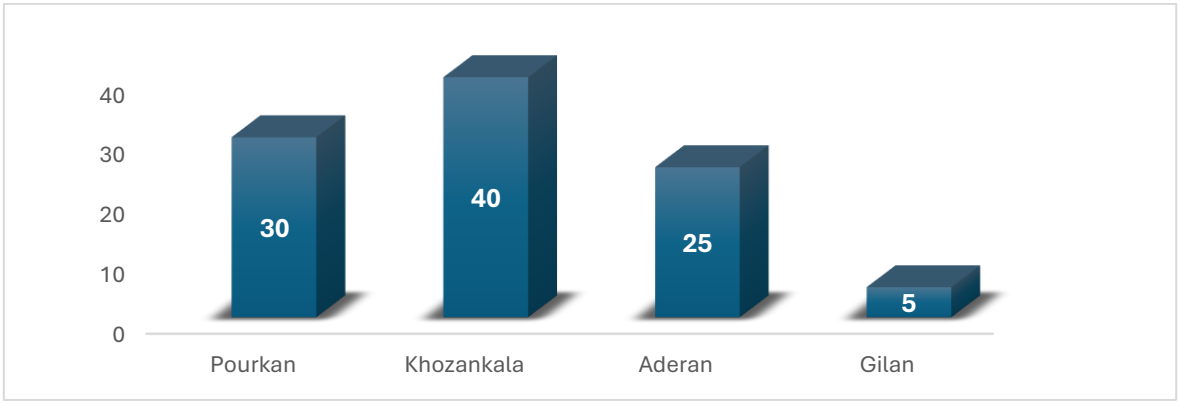
Based on the findings presented in Figure 02, the highest frequency of educational attainment among the sample informants, accounting for 6 individuals (30 percent), was at the high school diploma level.

Figure 03: Frequency Distribution of Informants by Age



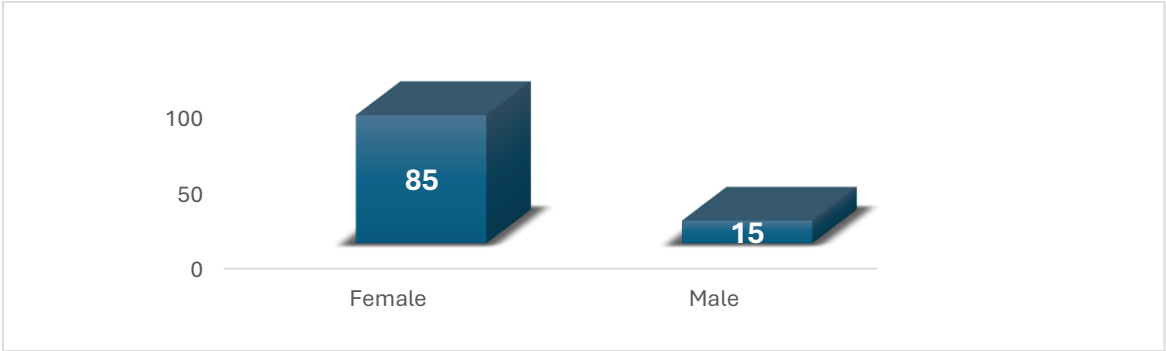
The results depicted in Figure 03 indicate that the highest frequency of informants, accounting for 25 percent of the sample, falls within the 51-60 age groups. The youngest and oldest participants were 18 and 81 years old, respectively, each representing 1 individual (5 percent).

Figure 04: Frequency Distribution of Informants by Ethnicity



The data presented in Figure 04 reveals that the Khuzinkalai ethnicity exhibits the highest frequency among the informants, comprising 40 percent of the sample .Following Khuzinkalai, the Porkani ethnicity accounts for 30 percent of the informants, and the Aderani ethnicity makes up 25 percent. The Gilani ethnicity has the lowest frequency, with only 1 individual (5 percent) representing this group.

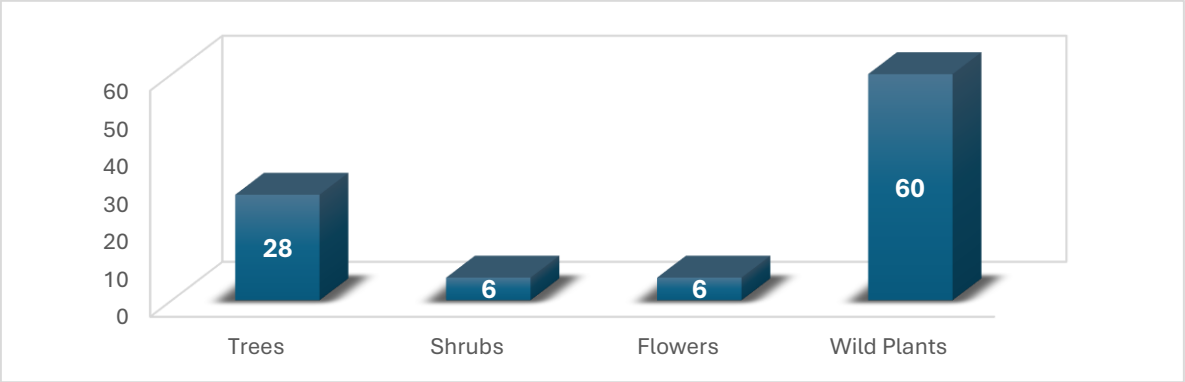
Figure 05: Frequency Distribution of Informants by Gender



As shown in Figure 05, among the 20 informants interviewed regarding their involvement in plant gathering, a significant majority of 17 individuals (85 percent) were females. Conversely, only 3 participants (15 percent) were males. These findings underscore the predominantly female role in plant collection activities within the studied population.

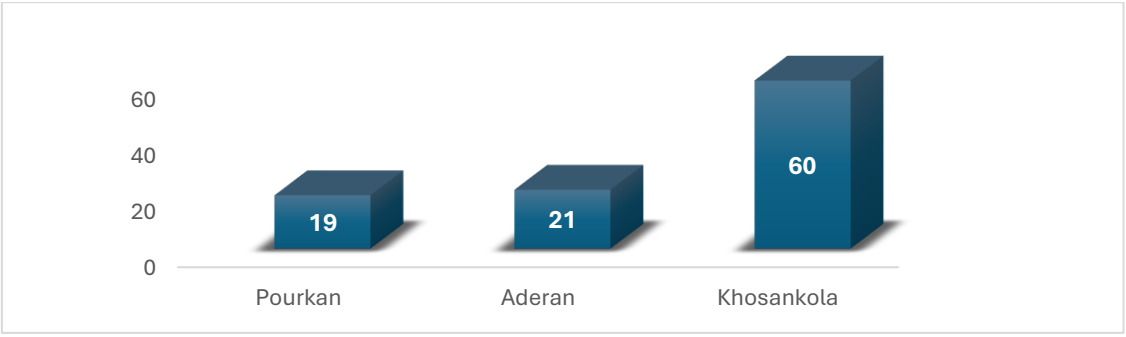
Subsequent analysis focused on the types of plants collected, and the results are presented graphically in the following figures.

Figure 06: Distribution of Plant Specimens by Botanical Type



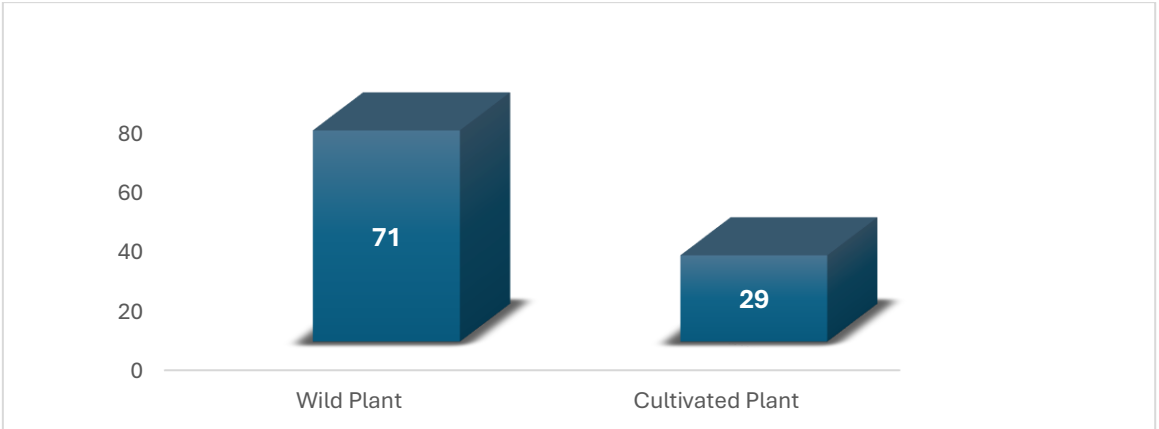
As illustrated in Figure 6, the most frequently collected plant specimens were herbaceous plants, comprising 60 percent of the total samples. Trees followed with a frequency of 27.5 percent.Shrubs accounted for 5 specimens (6.25 percent) including sumac, Japanese quince, *Sorbus torminalis*, wild raspberry, and foreign raspberry. Flowers constituted the remaining 5 specimens (6.25 percent), specifically including poppies, dandelions, Damask roses, wild roses, and violets.

Figure 07: Distribution of Plant Specimens by Collection Site



As indicated in Figure 07, the majority of plant specimens, 60 percent of the sample were collected from the village of Khuzinkala. This village exhibited the highest frequency of plant collection. The village of Aderan contributed 21 percent, while the remaining 19 percent collected from the village Porkan.

Figure 08: Frequency Distribution of Plants Based on Growth Habit



Row	Local Name	Persian Name	Scientific Name	Usage Type	Used Part	Wild or Cultivated	Collection Time	Accessibility	Habitat
1	Gol-e Banafsh	Gol-e Banafsh-e Se Rang	Violatncolor var. arvensis murr	Ornamental, Medicinal	Leaf, Flower, Seed, Root	Cultivated	Early Spring	Very accessible	Garden, Backyard, Farms
2	Gol-e Sorkh	Gol-e Sorkh, Gol-e Roz	Rosa hybrida	Edible-Medicinal, Ornamental	Flower	Cultivated	Spring, Summer	Very accessible	Garden, Backyard, Farms
3	Gol-e Mohammadi	Gol-e Mohammadi, Gol-e Golab	Rosa damascene	Edible-Medicinal, Cultural	Flower	Cultivated	Early Summer	Very accessible	Garden, Farmland
4	Gol-e Qased	Gol-e Qasedak	Taraxacum officinale	Medicinal, Cultural	Flower	Wild	Spring, Summer	Very accessible	Garden, Roadside
5	Gol-e Shaghayegh	Shaghayegh, Kheshkhash	Papaver rhoeas	Edible-Medicinal	Fruit, Flower, Seed	Wild	Summer	Very accessible	Road, Hill, Low Altitude
6	Sumaq Shrub	Sumaq	Rhus coriaria	Edible-Medicinal	Fruit	Wild	Spring, Early Fall	Moderately accessible	Garden, Mountain
7	Click Shrub	Red Hawthorn	Crataegus oxyeanta	Edible-Medicinal	Fruit	Wild	Fall	Moderately accessible	Garden, Spring
8	Wild Raspberry Shrub	Raspberry, Three Flowers	Rubs caesius	Edible-Medicinal	Fruit, Leaf, Seed	Wild	Late Spring, Summer	Very accessible	Roadside, Farms
9	Foreign Raspberry Shrub	Raspberry	Rubus sp	Edible-Medicinal	Fruit, Leaf	Cultivated	Spring, Summer	Moderately accessible	Garden
10	Japanese Quince Shrub	Japanese Quince	Chaenomeles japonica	Edible	Fruit	Cultivated	Summer, Fall	Rare	Garden, Farmland
11	Weeping Willow Tree	Weeping Willow	Salix agyptiaca	Edible-Medicinal	Leaf, Flower	Cultivated	Spring	Rare	Garden
12	Quince Tree	Quince	Cydonia oblonga	Edible-Medicinal	Fruit, Leaf, Seed	Cultivated	Fall	Moderately accessible	Garden, Farmland
13	Fig Tree	Fig	Ficus carica L	Edible-Medicinal	Fruit, Seed	Cultivated	Spring, Fall, Winter	Moderately accessible	Garden, Farmland
14	Grapevine Tree	Grape	Vitis vinifera	Edible-Medicinal	Fruit, Leaf	Cultivated	Summer	Very accessible	Garden, Farmland
15	Cherry Tree	Cherry	Prunus avium	Edible-Medicinal	Fruit, Leaf	Cultivated	Summer	Very accessible	Garden, Farmland
16	Wild Pistachio Tree	Wild Pistachio	Pistacia atlantica	Edible-Medicinal	Fruit	Wild	Spring, Summer, Fall	Moderately accessible	Mountain
17	Sour Cherry Tree	Sour Cherry	Carasus valgris	Edible-Medicinal	Fruit, Fruit Stem	Cultivated	Summer	Very accessible	Garden, Farmland
18	Pear Tree	Pear	Pirus communis	Edible-Medicinal	Fruit, Leaf	Cultivated	Fall	Very accessible	Garden, Farmland
19	Lebanese Apple Tree	Apple	Malus domestica	Edible-Medicinal	Fruit	Cultivated	Fall	Very accessible	Garden, Farmland
20	Apricot Tree	Apricot	Purnus armeniaca	Edible-Medicinal	Fruit, Fruit Core	Cultivated	Summer	Moderately accessible	Garden, Farmland
21	Yellow Plum Tree	Yellow Plum, Golden Drop	Pruns salicina	Edible-Medicinal	Fruit	Cultivated	Summer	Moderately accessible	Garden
22	Walnut Tree	Walnut	Juglans regia	Edible-Medicinal	Leaf, Fruit	Cultivated	Spring, Summer, Fall	Very accessible	Garden

Row	Local Name	Persian Name	Scientific Name	Usage Type	Used Part	Wild or Cultivated	Collection Time	Accessibility	Habitat
23	Green Almond Tree	Green Almond	Prunus spinosal	Edible-Medicinal	Fruit	Cultivated	Summer, Fall	Very accessible	Garden
24	Persimmon Tree	Persimmon	Diospyrus kaki	Edible-Medicinal	Fruit, Seed	Cultivated	Fall	Moderately accessible	Garden, Farmland
25	Black Poplar Tree	Poplar	Populus nigra	Practical	Tree Trunk	Wild	Fall, Winter	Very accessible	Riverside, Garden
26	White Poplar Tree	White Poplar	Populus alba	Practical	Tree Trunk	Wild	Fall, Winter	Very accessible	Roadside, Garden
27	Mulberry Tree	White Mulberry	Morus alba	Edible-Medicinal, Practical	Fruit, Stem	Wild	Fall	Very accessible	Garden, Roadside
28	Silver Berry Tree	Silver Berry	Elaeagnus angustifolia	Edible-Medicinal, Ornamental	Fruit, Flower, Leaf	Wild	Fall	Moderately accessible	Garden, Farmland
29	Dog Rose Tree	Dog Rose	Rosa canina	Cultural	Entire Plant	Wild	-	Rare	Backyard
30	Ash Tree	Ash	Fraxinus sp.	Medicinal	Leaf	Wild	Spring, Summer	Moderately accessible	Garden, Farmland
31	Fumitory	Fumitory	Fumaria officinalis	Medicinal	Leaf	Wild	Spring, Early Summer	Very accessible	Garden, Farm, Roadside
32	Mountain Tea	Mountain Tea	Stachys lavandulifolia	Medicinal	Purple Hairy Flowers	Wild	Spring	Very accessible	Mountain, Hillside
33	Valerian	Valerian	Valeriana officinalis	Medicinal	Root, Leaf	Wild	Fall	Very accessible	Garden
34	Burdock	Burdock	Arctium lappa	Medicinal	Leaf, Flower	Wild	Spring, Fall	Very accessible	Garden, Roadside
35	Watercress	Watercress	Nasturtium officinale	Medicinal	Leaf, Stem	Wild	Spring, Summer	Moderately accessible	Spring
36	Oregano	Oregano	Origanum vulgare	Medicinal	Leaf and Flowering Stem	Wild	Spring, Summer	Very accessible	Roadside, Streamside
37	Butterbur	Butterbur	Petasites officinalis	Medicinal	Leaf	Wild	Spring, Summer	Very accessible	Riverside, Hillside
38	Wheat Grass	Gandomak	-	Edible	Leaf, Stem	Wild	Spring, Summer	Very accessible	Garden, Roadside
39	Chicory	Khasni	Cichorium intybus	Medicinal	Flower	Wild	Summer, Fall	Very accessible	Garden, Hillside
40	Wheat Grass	Gandomak	-	Edible	Leaf, Stem	Wild	Spring, Summer	Very accessible	Garden, Roadside
41	Minda	Mountain Herb	-	Edible	Leaf, Stem	Wild	Spring, Summer	Very accessible	Mountain, Garden
42	Chicken Weed	Morgh	-	Edible	Leaf, Stem	Wild	Spring, Summer	Moderately accessible	Backyard, Streamside
43	Desert Parsley	Sabzi Sahraei	-	Edible	Leaf	Wild	Spring, Summer	Rare	Garden, Backyard, Desert
44	Melon Pear	Khiyarak	Lxiolirion tataricum	Edible	Aerial Part	Wild	Spring, Summer	Very accessible	Hillside, Forest
45	Mallow	Panja Kak	Malva sp.	Edible	Leaf	Wild	Spring, Summer	Very accessible	Garden, Farmland
46	Mallow	Panirak	Malva sylvestris	Edible-Medicinal	Flower, Leaf, Stem	Wild	Spring, Late Summer	Very accessible	Barren land, Garden, Mountain
47	Jerusalem Artichoke	Sibzamini Teresh	Helianthus tuberosus	Edible-Medicinal	Underground Tuber	Cultivated	Early Fall	Very accessible	Gardens

Row	Local Name	Persian Name	Scientific Name	Usage Type	Used Part	Wild or Cultivated	Collection Time	Accessibility	Habitat
48	Oil Weed	Ahlf Saharaei	-	Edible-Medicinal	Leaf, Flower	Wild	Early Spring, Summer	Moderately accessible	Desert, Garden
49	Flaxseed	Khashir	Sisymbrium saphia	Edible-Medicinal	Seed	Wild	Late Spring, Late Summer	Very accessible	Mountains, Roadside
50	Borage	Gol Gavzabon	Borago officinalis	Edible-Medicinal	Leaf, Flower	Wild	Spring	Very accessible	Garden, Mountain
51	Wild Strawberry	Tut Farangi Wahshi	Fragaria sp.	Edible-Medicinal	Leaf, Stem	Wild	Spring, Summer	Moderately accessible	Garden
52	Mint	Na'na	Mentha piperata	Edible-Medicinal	Leaf, Stem	Cultivated	Late Spring, Summer	Very accessible	Garden, Farmland
53	Pennyroyal	Pooneh	Mentha pulegium	Edible-Medicinal	Leaf, Flower, Stem	Wild	Spring, Summer	Very accessible	Garden, Roadside
54	Medlar	Azgil	Mespilus germanica	Edible-Medicinal	Fruit	Wild	Fall	Moderately accessible	Garden, Forest
55	Kangaroo	Kangar Wahshi	Gundelia tournefortii	Edible-Medicinal	Leaf, Stem	Wild	Spring, Mid-Summer	Very accessible	Mountain, Hillside
56	Thyme	Aishm	Thymus vulgaris	Edible-Medicinal	Leaf, Flower, Stem	Wild	Spring	Moderately accessible	Mountain
57	Salsify	Shang	Tragopogon pratensis	Edible-Medicinal	Leaf, Stem	Wild	Spring, Summer	Very accessible	Garden, Farmland
58	Falcaria	Ghaziaghi	Falcaria vulgaris	Edible-Medicinal	Leaf, Root, Stem	Wild	Spring, Summer	Moderately accessible	Garden, Farmland
59	Nettle	Gazne	Urtica dioica	Edible-Medicinal	Leaf, Stem	Wild	Spring, Summer, Fall	Very accessible	Garden, Roadside
60	Wild Garlic	Valek	Allium akaka cmel	Edible-Medicinal	Leaf, Bulb	Wild	Spring	Moderately accessible	Mountain, Hillside
61	Plantain	Barhang	Plantago major	Edible-Medicinal	Seed, Leaf, Fruit	Wild	Mid-Spring, Late Summer	Very accessible	Garden, Streamside
62	Garlic Mustard	Sirkak	Alliaria petiolate	Edible-Medicinal	Leaf, Bulb	Wild	Spring	Moderately accessible	Mountain, Hillside
63	Mustard	Shurak	-	Edible-Medicinal	Entire Plant	Wild	Spring	Moderately accessible	Mountain
64	Mustard	Larchak	-	Edible-Medicinal	Leaf	Wild	Spring	Moderately accessible	Mountain, Hillside
65	Thyme	Kakoti	Thymus vulgaris	Edible-Medicinal	Leaf	Wild	Spring	Very accessible	Mountain, Hillside
66	Purslane	Khurfa	Portulacaceae	Edible-Medicinal	Seed, Leaf, Stem	Wild	Spring, Summer	Moderately accessible	Garden, Farmland, Streamside
67	Chamomile	Babuneh	Chamaemelum	Edible-Medicinal	Leaf, Seed	Wild	Spring, Summer	Very accessible	Garden, Roadside
68	Potato	Sibzamini	Solanum tuberosum	Edible-Medicinal	Underground Tuber	Cultivated	Fall	Moderately accessible	Garden, Farmland
69	Oyster Mushroom	Gharch	Pleurotus sp.	Edible-Medicinal	Entire Plant	Wild	Spring	Moderately accessible	Mountain
70	Alfalfa	Yunjeh	Medicago sativa	Edible-Medicinal, Fodder	Leaf, Stem, Seed	Wild	Spring, Summer	Very accessible	Garden, Farmland

Row	Local Name	Persian Name	Scientific Name	Usage Type	Used Part	Wild or Cultivated	Collection Time	Accessibility	Habitat
71	Clover	Trefoil	Trifolium pratense	Edible-Medicinal, Fodder	Leaf, Stem, Flower	Wild	Spring, Summer	Very accessible	Garden, Farmland, Mountain
72	Rhubarb	Rivase	Rheum ribes	Edible-Medicinal, Fodder	Leaf, Stem	Wild	Spring	Moderately accessible	Mountain
73	Trefoil	Sahrae	-	Edible, Fodder	Flower	Wild	Spring, Summer	Moderately accessible	Garden, Farmland
74	Desert Herb	Ahlf Saharaei	-	Fodder	Leaf, Stem	Wild	Spring, Summer	Very accessible	Mountain, Desert
75	Highland Plant	Manjure	-	Practical	Stem	Wild	Summer	Moderately accessible	Mountain
76	Astragalus	Gon	Astragalus gummifer	Practical	Entire Plant	Wild	Summer, Fall	Very accessible	Mountain
77	Wild Buttercup	Alaleh	Ranunculus sp.	Practical, Medicinal	Leaf, Seed	Wild	Spring, Summer	Moderately accessible	Garden, Farmland
78	Wild Yarrow	Bumadaran	Achillea millefolium	Practical, Medicinal	Leaf, Flower	Wild	Early Spring, Summer	Very accessible	Mountain, Hillside
79	Persian Hogweed	Golpar	Heracleum persicum	Edible-Medicinal, Cultural	Fruit, Leaf, Stem	Wild	Spring, Summer	Very accessible	Garden, Mountain
80	Ornamental Ivy	Pichak	-	Ornamental	Leaf, Flower, Root	Wild	Spring, Summer	Moderately accessible	Garden, Backyard

Conclusions

Information about plants was gathered through continuous interviews with individuals experienced in plant use, particularly the elderly, who have extensive knowledge of plant applications. They provided insights into medicinal and edible uses, cultural expressions such as poetry and proverbs, tool-making, dyeing techniques, methods of plant collection and drying, and the sacred roles of plants—illustrating a harmonious relationship with nature. Plant samples were collected from the three villages of Purkan, Adaran, and Khozenkela, with the majority coming from Khozenkela. Out of the 80 plant specimens, 48 were gathered from Khozenkela, 17 from Adaran, and 15 from Purkan. Field data indicates that wild plants are particularly important to local communities. Among the 80 plant samples examined, 57 were wild, and 23 were cultivated. If we categorize the plants studied into medicinal, edible, and ornamental groups, medicinal plants are the most prevalent and are commonly found in the surrounding mountains. Most villagers, across different age groups, were familiar with the medicinal

In conclusion, plants perform various functions in the local community, such as medicinal and therapeutic uses, influencing popular beliefs and local proverbs, participating in festivals and ceremonies like weddings, Nowruz, and funerals, being used in dyeing, constructing musical and cultural instruments, serving ornamental and cosmetic purposes, and contributing to the sacred beliefs of the local population. In general, human life cannot be fully understood without recognizing the dependence on plants and the surrounding natural environment. Every culture draws on plant resources according to its specific needs and capacities, benefiting from them in various ways. The study of ethnobotany in this area reveals a profound connection between the residents and plants, rooted in long-standing knowledge that significantly contributes to the economic self-reliance of the villagers. In summary, this research highlights that plants in the Asara region not only meet the material and spiritual needs of local communities but also play a significant economic role. Their diverse functions—from nutritional and medicinal uses to cultural and sacred significance—demonstrate the intricate relationship between humans and plants.

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