

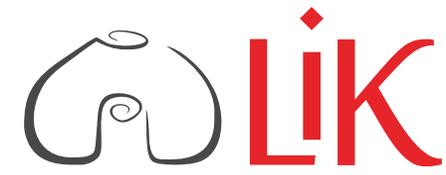


# Nature's Living Legacy: Ethnobotanical Wisdom and Indigenous Plant Use in Gulmit, Hunza

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# Outline

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- **Introduction & Background** – Hunza’s natural and cultural setting
- **Research Objectives** – Why this study was conducted
- **Literature Review** – Prior work and research gap
- **Methodology** – How the study was carried out
- **Results** – Key medicinal plants and their uses
- **Discussion** – Cultural importance and conservation needs
- **Conclusion & Implications** – What the findings mean
- **Acknowledgments** – People who made this work possible

# Introduction

- Hunza Valley = biodiversity hotspot in northern Pakistan
- Traditional plant-based healthcare sustained generations
- Modernization → erosion of indigenous knowledge
- Need to preserve ethnobotanical wisdom



*Image 1: A research participant treating a boy with dislocated arm/Taken on Iphone*



*Image1.1 : Gabilu Plant (a medicinal plant)*

# Research Objectives



To **document and preserve the traditional knowledge** of medicinal plant use among the inhabitants of **Gulmit, Upper Hunza (Gojal)** — as described by local elders.

### **Specific Goals:**

- Record **local plant names**, parts used, and their **medicinal applications**.
- Understand the **cultural and ecological importance** of these plants.
- Contribute to **preserving indigenous knowledge** for future generations and possible **therapeutic research**.

## Literature Review

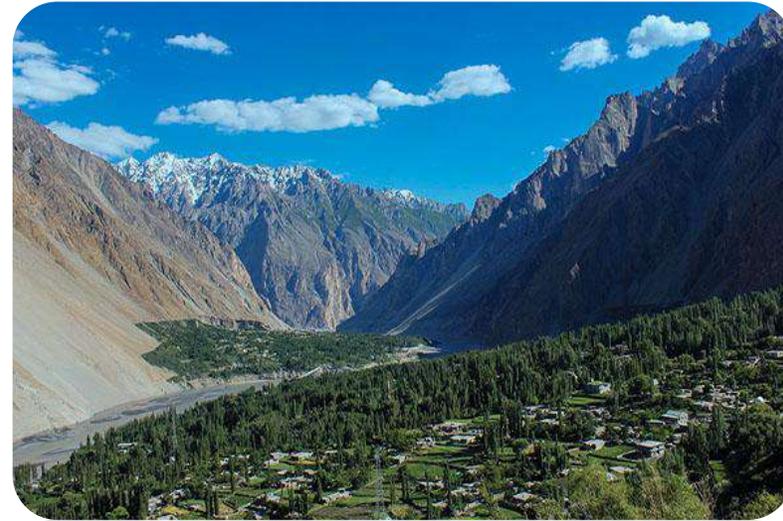
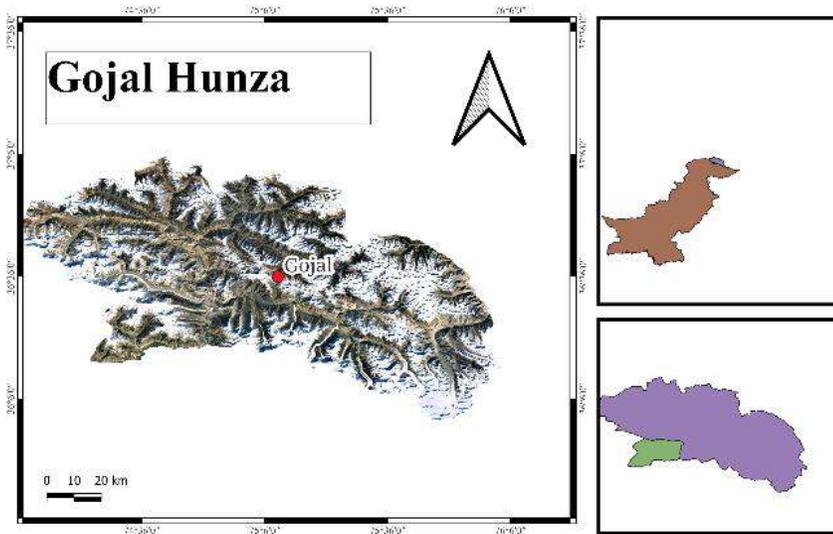
- Humans have long relied on plants **for healing**, refining knowledge through experience (Shakya, 2016).
- **About 10% of higher-plant species** are medicinal (Shinwari, 2010).
- Nearly **two-thirds of developing-country** populations depend on herbal medicine (Liu, 2004; Doughari et al., 2009).
- In Pakistan, **70–114 species** recorded across regions (Athar & Siddiqui, 2004; Ali & Qaisar, 2009).
- Wakhi ethnobotanical knowledge remains largely undocumented (Tika Khan et al., 2013).



Image 2.0 : *R. Tibeticum*

## Study Sites:

- Gulmit Gojal (36.38° N, 74.86° E)
- Pastures & mountain ranges: Šimijirav, Šutubar, Četruj, Rišip Jirav, etc.



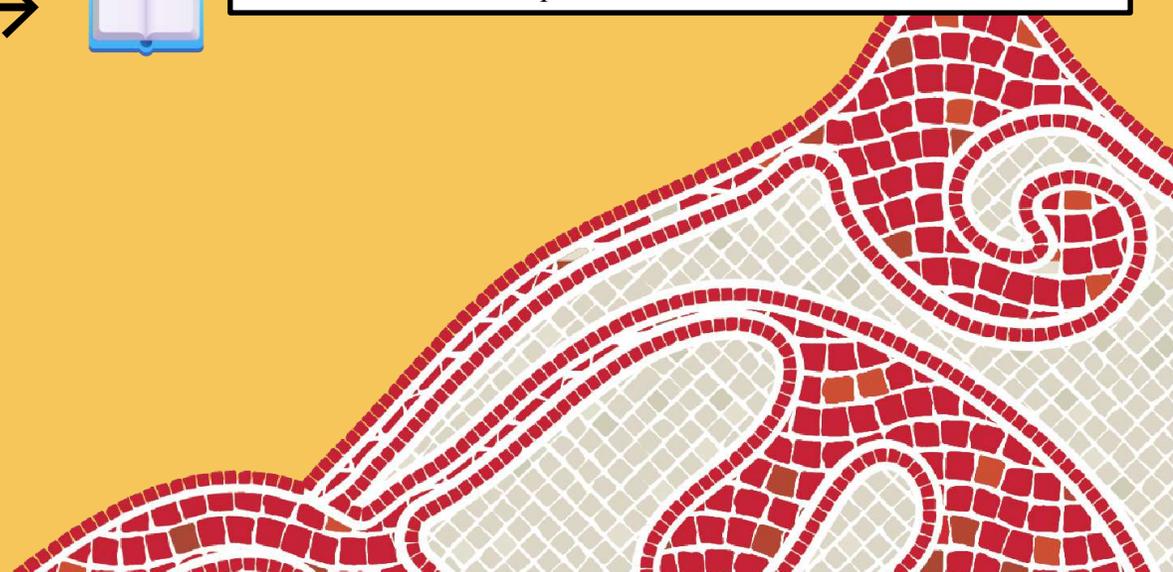
Gulmit Gojal Hunza Gilgit Baltistan: Photo taken on Iphone

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# Methodology



*Image 2.1 : Wakhi Shepherd talking with the researcher in Kunda Hel Pasture/Taken on Iphone*



## Approach:

- **Survey Type:** *Snowball technique* using *semi-structured interviews* (June 2020 – August 2022).
- **Participants:** Local elders, shepherds, and herbal practitioners — both men and women.
- **Data Collected:**
  - Botanical & local (Wakhi/Xik) names
  - Parts used for medicine
  - Locations and occurrence
  - Medicinal uses & preparation methods
- **Tools Used:**
  - *PlanNet* and *LeafSnap* — for species identification
  - *Microsoft Office* — data recording
  - *R Studio 4.3.2* — for analysis and graph plotting



*Image 3: Researcher talking with a Wakhi research participants in an informal setting / Taken on Iphone*

## Results & Findings

### Key Findings:

- **36 plant species**  
→ from **21 families** and **34 genera**
- **22 ailments** treated — including:  
*fever, jaundice, high blood pressure, asthma, wounds, and infertility.*
-  **Commonly used families:**
  - Lamiaceae
  - Plantaginaceae
  - Betulaceae
  - Elaeagnaceae

Family	Plant Name	Local (Wakhi) Name	Medicinal Use
Lamiaceae	Mentha longifolia	Waḏəṅ	Used for jaundice, fever, asthma, high BP
Betulaceae	Betula utilis	Furz	Used for butter storage & burial shrouds
Elaeagnaceae	Hippophae rhamnoides	Zax̄	Treats kidney & reproductive issues
Plantaginaceae	Plantago lanceolata	Sibgilg	Heals wounds, skin protection



Fig 1.a *M. longifolia*



Fig 1.b *M. royleana*



Fig 1.c : *N. floccosa*



Fig 1.d *T. linearis*

d. **Botanical name:** *Thymus linearis*(fig.1.d)

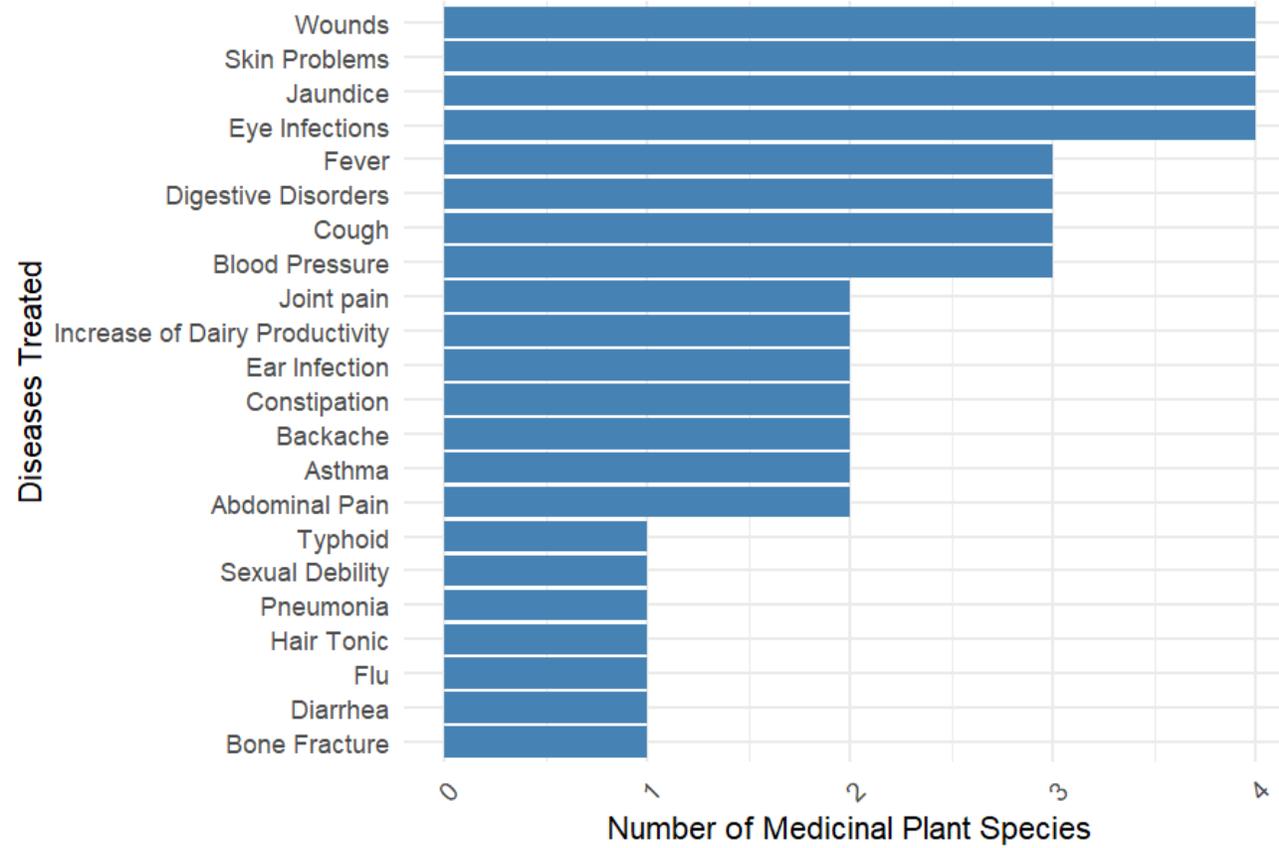
**Vernacular name:** Çamuru

**Part used:** Whole plant

**Occurrence:** A perennial plant found in almost all pastures.

**Medicinal Use:** The plant is collected during summer days and dried to make herbal tea which is reported as highly effective for cold, fever and cough.

Medicinal Plants Treating Various Diseases



## Cultural Significance (Wakhi Perspective)

- **Wakhi people**  $\approx$  50,000 worldwide – language endangered
- **Indigenous plant terms** = key to language preservation
- **Loss of ethnobotanical practice** = loss of cultural identity
- **Documentation** → cultural revival & linguistic preservation



*Image 4: Wakhi elder showing a decade old butter covered in Furz Plant*

## Conservation & Discussion

- **Modernization** → erosion of traditional knowledge
- Importance of **recording elder wisdom** before it disappears
- Potential for **sustainable pharmacology & ecotourism**
- Bridging traditional and modern healthcare systems



Image 5: *Hippophae rhamnoides*

## What is Next?

- **Expand ethnobotanical research** across Central Asia to compare plant use and cultural knowledge among mountain communities.
- **Integrate GIS and remote sensing** to map the distribution and habitat of key medicinal species.
- **Collaborate** with regional universities and research centers for cross-border data collection and species verification.
- **Establish a Central Asian Ethnobotanical Database** to document indigenous plant knowledge and local terminologies.



Image 6 : *Rosa Webbina*

## Conclusion

- 36 species documented = rich bio-cultural heritage
- Indigenous knowledge vital for sustainability and medicine
- Urgent need for documentation and community awareness“
- Preserving plants is preserving culture.”



*Image 7 : Kunda Hel Pasture Hunza*

# Thank You!



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