ISSN (ELECTRONIC): 2945-3135

Piyush Kumar Patel (2025). ***Assessment of Medicinal Plant Diversity loss in Shakumbhari Devi Hills of Shivalik Range.*** International Journal of Multidisciplinary Research & Reviews. 4(1). 215-221.

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH & REVIEWS

journal homepage: www.ijmrr.online/index.php/home

ASSESSMENT OF MEDICINAL PLANT DIVERSITY LOSS IN SHAKUMBHARI DEVI HILLS OF SHIVALIK RANGE.

Piyush Kumar Patel

Assistant Professor

Department of Botany

S.B.K.R. RAJKIYA MAHAVIDHALAYA, CHUDIYALA (BHAGWANPUR)

Distt. Haridwar (Uttarakhand), India.

How to Cite the Article: Piyush Kumar Patel (2025). ***Assessment of Medicinal Plant Diversity loss in Shakumbhari Devi Hills of Shivalik Range.*** International Journal of Multidisciplinary Research & Reviews. 4(1). 215-221.

DOI: https://doi.org/10.56815/ijmrr.v4i1.2025.215-221

Keywords	*Abstract*
Biodiversity, Medicinal Plants, Vangujjars, Shivalik Hills.	Shakumbhari devi hills are part of Shivalik range of district Saharanpur. The area is recognized as an inhabitant of numerous drugs and medicinal plants. It is observed that nearly hundreds of medicinal plants occur in this area, These plants are commonly used in various ailments.This area is occupied by several saints and ojhas. Villagers residing in this area consult local medicine men and saints for treating their ailments. This area is exploited for plants as a whole or part there of by several traders of medicinal plants. There is a serious threat to biodiversity of this area as traders are collecting tones of plants and their parts from this area. The hilly area is an inhabitant of van gujjars also. These people depend upon natural resources and cattle. Overgrazing by these cattle's is also causing loss to biodiversity of this area. There is a need to protect and conserve this area. Present study reveals that several plants which use to occur earlier are not found now or are in very limited amount.

Piyush Kumar Patel (2025). ***Assessment of Medicinal Plant Diversity loss in Shakumbhari Devi Hills of Shivalik Range.*** International Journal of Multidisciplinary Research & Reviews. 4(1). 215-221.

Introduction

Shivalik comprises the southern most range of Himalayas. It is extended from patwar plateau to Brahmputra valley. Shivalik range is one of the richest terrain in terms of number of medicinal plants. Shakumbari range is situated in north of Saharanpur District at the border of Uttar Pradesh and Uttarakhand. This area has famous shrine of Hindu godess, Shakumbari Devi. It is situated in foot hills of Shivalik range

Plants have been used as a source of medicines by men since ancient time. Plants are useful in their crude or advanced form as drugs. Indian drugs have an immense potential. Out of about 16,000 flowering plants known to occur in India, about 3000 are recognized with their medicinal uses (Prakash, 1998) According to Arora and Nayar (1984) a wide range of cultivated and wild plants are grown and used by native communities for one or other reason. Tribal and local people residing in forest areas do not consult a qualified practioner to cure their ailments. These people depend upon local medicine men inheriting traditional informations, ojhas and knowledge of plants growing in neighbouring areas.

(Ahuja, 1965) listed 92 plant species of medicinal importance in the adjoining area of Saharanpur including Haridwar region. Similarly Uniyal (1965, 1977) and Bhargava (1982) has explored medicinal plants from neighboring area of Uttarakhand and Saharanpur. Information on medicinal plants of these areas is also updated by Dhiman (1993,2001,2002,2003) and Dhiman and Kaushik (1999) and Kaushik and Dhiman (2000).

According to a study by Department of Biotechnology and Department of Space, Government of India in 2002, a total of 308 plant species of medicinal importance occur in Uttarakhand and adjoining areas. Out of these 12 species are endemic.

It is estimated that annual overall demand for vegetative drugs in the last few decades is rising by nearly 7 percent in organized sectors of trade (Gupta and Sethi 1982) . Pharmaceutical industries give greater emphasis and attention to chemical and biochemical parameters. Plants exploration under taken by industries in several parts of world provides sufficient testimony in this direction (Gupta, 1977).

In the present study, a study of wild medicinal plants growing in shakumbhari range was carried out and it was observed that there is a heavy loss to the flora of this natural habitat due to trading of medicinal plants, locally used by saints and medicine men.

Study Area and Methodology

Shakumbhari Devi is situated in Shivalik range towards 40 km north of district Saharanpur. The district lies between 77°15' to 77°-55' east latitude and 29°-24' to 30°-30' north longitude. The

Piyush Kumar Patel (2025). ***Assessment of Medicinal Plant Diversity loss in Shakumbhari Devi Hills of Shivalik Range.*** International Journal of Multidisciplinary Research & Reviews. 4(1). 215-221.

altitude above sea level is about 340 meter. The maximum height of Shakumbhari hills is 909 meter. Area has Stony and Gravel Soil. Shakumbhari hills have many seasonal drains.

The survey area was exhaustively investigated periodically to find out various plants of medicinal interest. Various uses were recorded as per standard manual of Ethnobotany (Martin, 1993). Local survey was carried out to asses the amount of material present at different times.

The area was visited periodically to find out the

1. Amount of plant material available, amount of harvesting, parts/amount used by locals, amount growing out (trade)and the mode of harvest.

Results

Survey revealed that nearly 100 plants of medicinal interest occur in this region belonging to nearly 42 families (Table -01). The area is very rich in medicinal plant biodiversity

Table – 01: Family.wise List of Total Plant of Medicinal Interest Occuring in Shakumbhari Devi Hills

Family	No. of Plants	Family	No. of Plants
Acanthaceae	2	Gentianaceae	1
Adiantaceae	1	Liliaceae	5
Amaranthaceae	2	Loganiaceae	1
Amaryllidaceae	1	Lythraceae	1
Apocynaceae	4	Malvaceae	2
Asclepiadaceae	1	Meliaceae	3
Berberidaceae	1	Menispermaceae	1
Bombacaceae	1	Moraceae	5
Boraginaceae	1	Myrtaceae	3
Cannabinaceae.	1	Nyctaginaceae	1
Capparidaceae	1	Oleaceae	1
Celastraceae	1	Orchidaceae.	1
Chenopodiaceae	1	Palmae	1

Piyush Kumar Patel (2025). ***Assessment of Medicinal Plant Diversity loss in Shakumbhari Devi Hills of Shivalik Range.*** International Journal of Multidisciplinary Research & Reviews. 4(1). 215-221.

Convolvulaceae	1	Poaceae	2
Connarace	1	Rhamnaceae	1
Combretaceae	4	Rutaceae	2
Cucurbitaceae	2	Scrophulariaceae	1
Dipterocarpaceae	1	Solanaceae	3
Ebenaceae	1	Sterculiaceae	1
Euphorbiaceae	4	Verbenaceae	1
Fabaceae	19	Zygophyllaceae	1

The area is exploited by several traders of medicinal plants. It was observed that legal and illegal extraction of plant material is carried out. There are about 11 plants which show a great decline in population (Table 02). Some of the plants which use to occur earlier, are totally vanished now due to over exploitation (Table 03). These plants are entirely degraded from this area.

Discussion

The Himalaya is known to have one of the largest, most complex and self perpetuating ecosystem made up of a large number of diverse and varied plant life. Shivalik range of lower Himalayas has several important medicinal plants.

Pharmaceutical industries and medicine men largely depends upon natural resources of medicines. These people carry out a great exploitation of the medicinal plants. As in most of medicinal plants the roots have large number of chemical substances, entire plant is dug out creating a negative effect on their biomass and regeneration in the wild (Uniyal et al., 2002).

Present report deals with loss of medicinal plant resources in the shakumbhari range of shivalik. The area shows great decline in several plants which use to occur earlier. Contractors of medicinal plants and herbs consult local tribals to collect different plants and their parts. For local people this price is a handsome amounts, much higher than the labour rate. To have a better income, larger and larger amounts are collected by local people.

Table 02 : List of Plants Showing a Decline in Populations

English Name	Common Name	Botanical Name	Family
Soapnut	Shikakai	*Acacia concinna*	Fabaceae

Piyush Kumar Patel (2025). ***Assessment of Medicinal Plant Diversity loss in Shakumbhari Devi Hills of Shivalik Range.*** International Journal of Multidisciplinary Research & Reviews. 4(1). 215-221.

Asparagus	Satawar	*Asparagus racemosus*	Liliaceae
Indian berberry	Daruhaldi	*Berberis aristata*	Berberidaceae
Akund	Madar/Aak	*Calotropis procera*	Asclepiadaceae
Desmodium	Sarivan/salparni	*Desmodium gangeticum.*	Fabaceae
East Indian screw tree	Marorphali	*Helicteres isora*	Sterculiaceae
Cow hedge	Kawanch	*Mucuna purita*	Fabaceae
Chebulic myrobalans	Harad	*Terminalia Chebula*	Combretaceae
Indian Squill	Jangli Pyaj	*Urginea indica*	Liliaceae
Goose berry	Amla	*Emblica officinalis*	Euphorbiaceae
Spanish Cherry	Maulsari	*Mimusops elengi*	Sapotaceae

Table 03 : List of Plants Entirely Exhausted from Area of Survey

English Name	Common Name	Botanical Name	Family
Barbados Aloe	Gwarpata/Ghrita Kumari	*Aloe barbadensis*	Liliaceae
Musale	Safed musli	*Asparagus adscendens*	Liliaceae
Henna	Mehndi	*Lawsonia inermis*	Lythraceae

The survey revealed that even commonly occurring plants which do not have a threat are also loosing their quantities such as Aloe and Henna. It may be because of the fact that initially these were available without any great effort and therefore people has entirely cut whole amount of the plant material.

Musale has not been observed in the area of study however earlier studies has mentioned this plant in the area (Ahuja 1965).

The area is also inhabited by vangujjars. These people reside in makeshift huts in the area. Vangujjars depend upon cattle milk for their lively hood. The cattle feed upon naturally occurring foliage of the area. Overgrazing can also be a cause of loss of biodiversity of this area. This can be further attributed by the occurrence of *Achyranthus* which can be seen now. This is a plant indicator of over grazing.

Piyush Kumar Patel (2025). ***Assessment of Medicinal Plant Diversity loss in Shakumbhari Devi Hills of Shivalik Range.*** International Journal of Multidisciplinary Research & Reviews. 4(1). 215-221.

The WWF has expressed concern on ethical responsibilities of biodiversity workers to interact with local communities, National/Government organizations, Public and Private sectors etc. to share traditional knowledge and safety of biodiversity. Overexploitation can be controlled by Public awareness and participation in conservation programmes particularly with local people.

AUTHOR(S) CONTRIBUTION

The writers affirm that they have no connections to, or engagement with, any group or body that provides financial or non-financial assistance for the topics or resources covered in this manuscript.

CONFLICTS OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

PLAGIARISM POLICY

All authors declare that any kind of violation of plagiarism, copyright and ethical matters will take care by all authors. Journal and editors are not liable for aforesaid matters.

SOURCES OF FUNDING

The authors received no financial aid to support for the research.

REFERENCES

Ahuja, B.S., 1965.*Medicinal Plants of Saharanpur*. Bishen Singh Mahendrapal Singh, Dehradun.

Arora, R.K and Nayar, E.R., 1984. Wild Relatives of Crop plants in India. *Sci. Monogr*. NBPGR, New Delhi, 7: 90.

Bhargav, S., 1982. Some medicinal plants of Distt. Saharanpur. *M.Phil. Thesis*, Meerut University, Meerut.

Department of Biotechnology, 2002. *Biodivesity Characterization at Landscape Level in Western Himalaya, India, using Satellite Remote Sensing and Geographic Information System*. Indian Institute of Remote Sensing, Dehradun. India.

Dhiman, A.K., 1997. A survey of medicinal plants of Haridwar and adjoining area vis&a&vis the raw plant drugs being sold in local market. *Ph.D. Thesis*, Gurukul Knagri University, Haridwar.

Dhiman, A.K., 2001. Medicinal plant wealth of Hardwar and adjacent area. *Sachitra Ayurved*, 55: 914-925.

Dhiman, A.K., 2002. Common bazar medicines of Haridwar (Uttaranchal) . *Sachitra Ayurved*, 55: 613-619.

Piyush Kumar Patel (2025). ***Assessment of Medicinal Plant Diversity loss in Shakumbhari Devi Hills of Shivalik Range.*** International Journal of Multidisciplinary Research & Reviews. 4(1). 215-221.

Dhiman, A.K., 2003. Sacred plants of district Haridwar (Uttaranchal) and their medicinal uses. *Ad-Plant Sci*., 16: 377-384.

Dhiman, A.K. and Kaushik, P., 1999. Avenue trees for conservation of environment at Hardwar. In: *Sustainable Ecosystem and Environment*, (Eds.) D.R. Khanna and A. Gautam. Published by Action for Sustainable Development and Awarencss (ASEA) , Rishikesh.

Gupta, R., 1977. Medicinal plant components of Indian forest. *Indian Fmg*., 25: 95-98.

Gupta, R. and Sethi, K.L., 1982. Conservation of medicinal plant resources in the Himalayan region.

In: *Conservation of Tropical Plant Resources*, (Eds.) Jain, S.K. and K.L. Mehra. Botanical Survey of India, pp. 101-109.

"Kaushik, P. and Dhiman, A.K., 2000. *Medicinal Plants and Raw Drugs of India*. Bishen Singh Mahendra Pal Singh, Dehradun.

Martin, G., 1993. *Ethnobotany: A Methods Manual*. Chapman and Hall, Madras.

Prakash, V., 1998. Indian medicinal plants: Current status-I. *Ethnobotay*, 10: 112-121.

Uniyal, M.R., 1965. Saharanpur van khand ki vanoushdhi 1962&63. Sachitra Ayurved, 18: 39&44.

Uniyal, M.R., 1977. *Uttrakhand Vanoushdhi Darshika*. Central Council of Research in Indian Medicine and Homeopathy, Delhi.

Uniyal, S.K., Awasthi, A. and Rawat, G.S., 2002. Current status and distribution of commercially exploited medicinal and aromatic plants in upper Gori valley, Kumaon Himalaya, Uttaranchal. *Curr. Sci.*, 82: 1246-1252.