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Promote Ayurveda To Protect The Plants: A Case Study

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Abstract: Most Ayurvedic practitioners work in rural areas, providing health care to at least 500 million people in India alone. These herbal medicines dominate the practice of Ayurveda. Biodiversity is the main source of human survival & financial wellbeing on which the whole people, families, communities, nations and future generation depends. Medicinal plants are globally valuable sources of herbal products and they are disappearing rampantly. Therefore, with proper care and management biological sources can be used sustainably ensuring their use for our forthcoming generation**.**

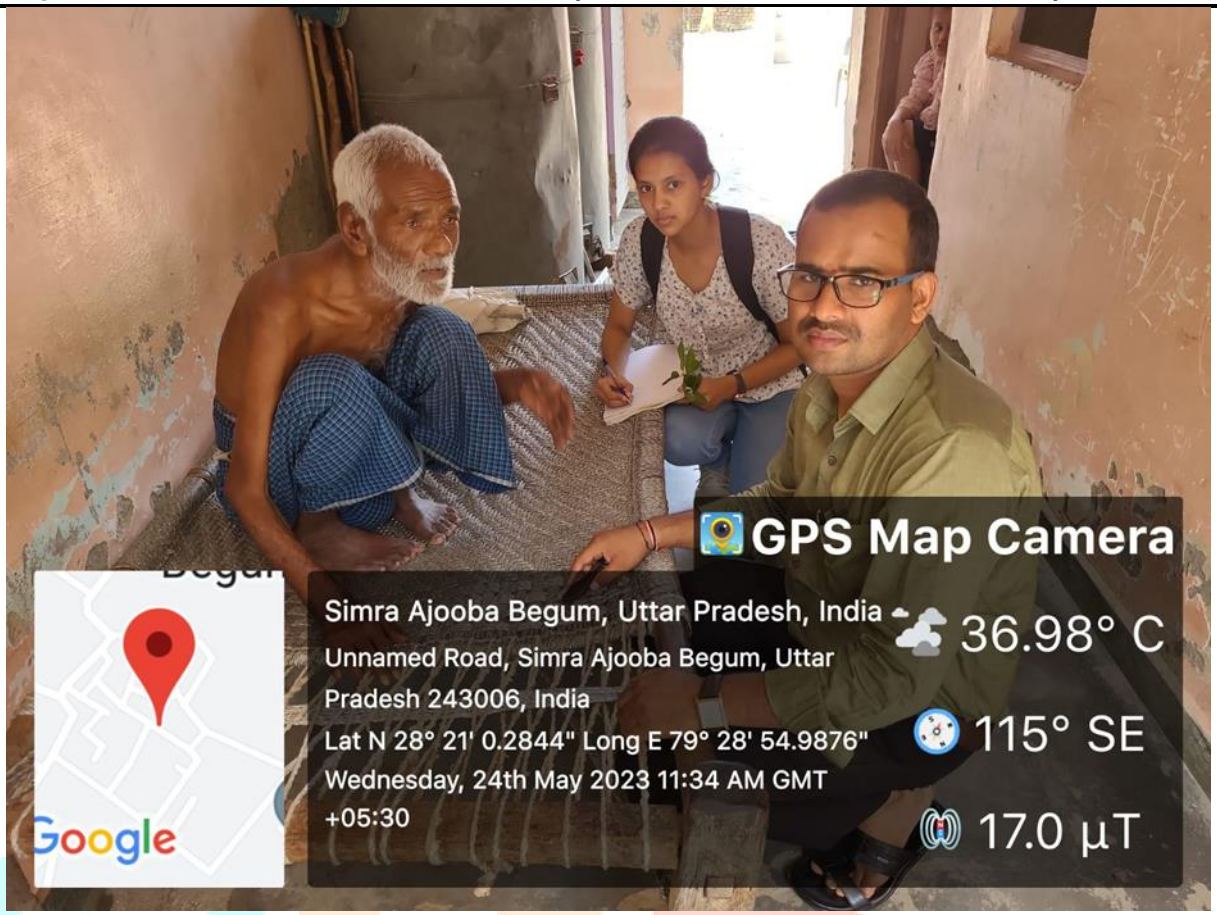
Index Terms **- Practitioners, biodiversity, sustainably, financial, management.**

I. INTRODUCTION

Plant Science is another name of Ayurveda. The system of Ayurveda is mainly based on drugs of plant origin and must have started with the origin of plants. Medicinal plants and traditional medicine play an important role in the health care system of most developing countries. The traditional health care practice is mainly dependent on medicinal plants collected from the wild. Ayurveda has a long tradition behind it, having originated in India perhaps as much as 3,000 years ago. Ancient Indian literature such as Vedas, Puranas and Upanishads are probably the earliest known sources of ethno-medico botany dating back to 4500-1600 BC. Atharva Veda is considered to be the oldest encyclopaedia of use of plants for medicine. Detailed descriptions of medicinal plants are also found in 'Charaka Samhita' (1000-800 BC) describing uses of about 1,106 plants and 'Sushruta Samhita' (800-700 BC) which includes description of about 1,270 plants and 650 drugs. In India there are about 2,50,000 registered medical practitioners of Ayurvedic system and about 2000-2500 plants are used for various formulations. Most Ayurvedic practitioners work in rural areas, providing health care to at least 500 million people in India alone. These herbal medicines dominate the practice of Ayurveda. Biodiversity is the main source of human survival & financial wellbeing on which the whole people, families, communities, nations and future generation depends. Medicinal plants are globally valuable sources of herbal products and they are disappearing rampantly. Therefore, with proper care and management biological sources can be used sustainably ensuring their use for our forthcoming generation. We have conducted a survey in Bithri Chainpur Block of Bareilly district to identify medicinal plants and rare species of herbs. About 80% of population in bithri is reported to use Ayurveda and medicinal plants from kitchen to "Aangan" which help their primary health care needs. The people utilize plants for their basic needs including 'medicine'. The villagers are fully unacquainted about plants alkaloids or which medicine is formulated by using this plant. The knowledge of plants to cure diseases and disorders is inherited to these people from generations. Medicinal plants have saved people's lives in many epidemics, a recent example of which is the Corona epidemic. During the Corona epidemic, millions of villagers who could not reach hospitals or did not have resources, saved their lives and protected their families with the help of medicinal plants. Common man has become healthy by drinking the decoction of these plants used in homes, hence today there is a great need to grow or preserve important medicinal plants in the courtyard, kitchen garden and gardens of your home. These plants are globally

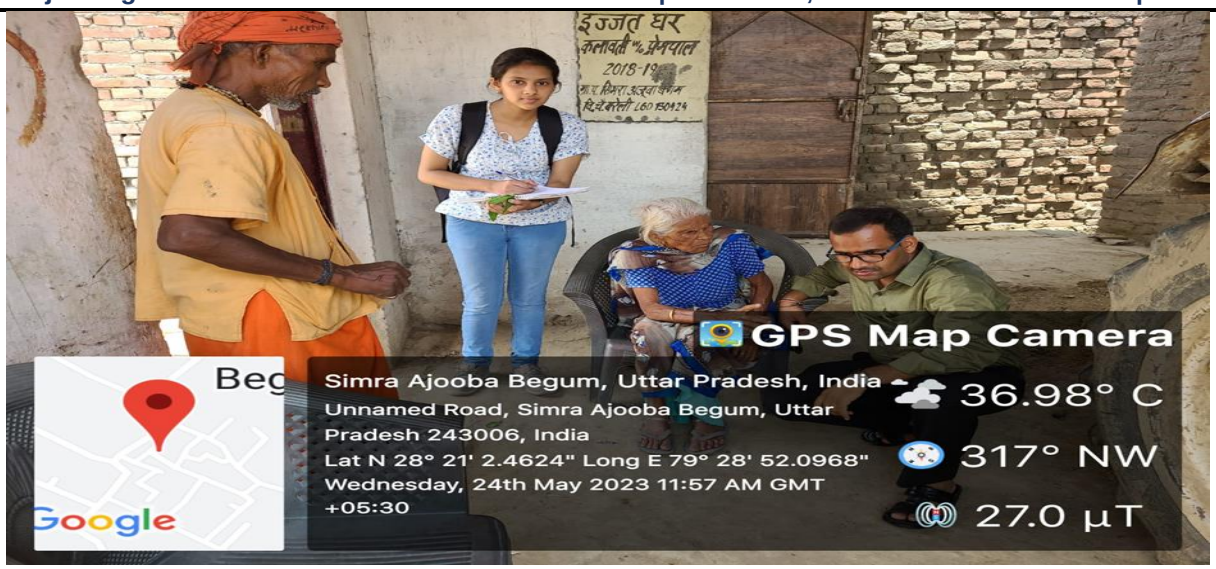
valuable sources of herbal products and disappearing rampantly. Therefore, with proper care and management biological sources can be used sustainably ensuring their use for our forthcoming generation.

Material and Method: - The District Bareilly forms a part of Rohilkhand division, is located in the north west of U.P. and lies between latitude 280 01' and 280 54' north and longitude 780 58' and 790 47' east. Its maximum length from north to south is about 96 Km and breadth from east to west is about 75 Km. For the administrative convenience the Bareilly district has been divided into six tehsils and fifteen blocks, which are Tahsil- Baheri (Blocks-Baheri, Damkhoda, Shergarh), Tahsil-Meerganj (Blocks- Meerganj, Fatehgarh West), Tahsil-Bareilly sadar (Blocks- Bhojipura, Kyara , Bithri Chainpur), Tahsil-Aonla (Blocks- Alampur Jafrabad, Ramnagar, Majhgawan), Tahsil- Nawabgan,j (Blocks- Nawabganj, Bhadpura), Tahsil-Faridpur (Blocks- Faridpur , Bhuta). The survey was conducted in different seasons during 2022-2023 in the villages of Bithri Chainpur Block of tahsil bareilly sadar. In field studies, medicinally usable plants collected with the help and interview of local peoples actively engaged in ethno-medicinal practices. The details about plant parts, mode of administration and local names etc were specially recorded during the survey. The ethno-medicinally important plant specimen collection was identified with the help of available literature at department of botany, Bareilly college, Bareilly.



Result and Discussion: -

The present study documented the ethno-medicinal knowledge of the common peoples, their skills and practices based on their beliefs and experiences. This observation has explored the indigenous knowledge of the villagers of the Simra, khajuriya, kanthariya villages of bithrichainpur blocks in Bareilly sadar tehsils. A total of 201 local informants including 40 males and 26 females were interviewed. Based on demography these informants were categorized into different classes as given in the present survey male participants were higher than females. The local informants were farmers, foresters, craftsmen, shopkeepers, mechanic and housewives. The traditional health practitioners hold significant information on the medicinal uses of local plant species to treat various ailments. THPs have more than 30 years' experience. The maximum information was collected from the informants above 60 years age possess significant traditional knowledge. Mostly villagers crushed plant leaves and make slurry then used as medicine. they prepare juice or lotion from leaves, bark and apply it on their own skin to cure pathogenic disease. During study, we observed that these formulations has no side effect. Even though all plant parts are significant in the treatment of different ailments; leaves are the most common utilized plant part with 38% application in traditional medicinal remedy, followed by whole plant (14%), root (1%), stem (8%), fruit, seed, flower (10% each), bark (5%), shoot and rhizome (2% each). It has been reported that the use of leaves is better for the survival of medicinal plants collected by herbalists compared to the collection of entire plant, roots and stem.



Table

S. No	Common Name	Botanical Name	Family	Habit	Medicinal Uses
1	Marigold	*Tagetes erectus*	Asteraceae	Herb	Eye Issues
2	Doobgrass	*Cyanodon dactylon*	Poaceae	Herb	Urine disorder
3	Sahaduiya	*Vernonia cinerea*	Asteraceae	Herb	High Cold
4	Bhaang	*Canabis sativa*	Cannabaceae	Herb	Fever
5	Neem	*Azadirachta indica*	Meliaceae	Tree	In various disorders
6	Yellow makoi	*Solanum diphyllum*	Solanaceae	Herb	Pneumonia and tonsils etc
7	Giloy	*Tinospora cordifolia*	Menispermaceae	Herb	Anti rabies
8	Andharohi	*Cynoglossum zeylanicum*	Boraginaceae	Herb	Injury, Infection
9	Black makoi	*Solanum ngrum*	Solanaceae	Herb	Swelling in feet
10	False daisy (bhrangraj)	*Eclipta prostrata*	Asteraceae	Herb	Feet itching
11	Ashwadgandha	*Withania somnifera*	Solanaceae	Herb	Reduce swelling etc
12	Sudarsan	*Crinum latifolium*	Amaryllidaceae	Herb	Eczema etc
13	Patharchatta	*Bryophyllum pinnatum*	Crassulaceae	Herb	Liver,Kidney Stone
14	Kakraunadha	*Blumea lacera*	Asteraceae	Herb	Thread Worms
15	Gulabans	*Mirabilis jalapa*	Nyctaginaceae	Herb	Septic
16	Naari	*Ipomoea aquatica*	Convolvulaceae	Herb	Winter Effects
17	Datura	*Datrua stramonium*	Solanaceae	Shrub	Antirabies
18	Kalfnath	*Andrographis paniculata*	Acanthaceae	Herb	Diarrhoea etc
19	Giloy	*Tinospora cordifolia*	Menispermaceae	Herb	Immune booster
20	Garundi	*Alternanthera sessilis*	Amaranthaceae	Herb	Anti-fungal, Ringworm
21	Motha	*Cyperus rotundus*	Cyperaceae	Herb	Neuroprotective
22	Chotmar	*Argyreia nervosa*	Convolvulaceae	Shrub	
23	Bhrang raj	*Eclipta prostrata*	Asteraceae	Herb	Asthma,Jaundice etc
24	Sharifa	*Annona squamosa*	Annonaceae	Shrub	Antiworms
25	Pakariya	*Ficus virens*	Moraceae	Tree	Antiseptic
26	Kanghi ghas	*Abutilon indicum*	Malvaceae	Herb	Wound healing
27	Chirchita	*Achyranthes aspera*	Amaranthaceae	Herb	Antiseptic

28	Harsingar	*Nyctanthes arbor-tristis*	Oleaceae	Shrub	Liver Problems
39	Pipal	*Ficus religiosa*	Moraceae	Tree	Antiseptic
30	Jangali pudina	*Ageratum conyzoides*	Asteraceae	Herb	Sciatica Issue
31	Kasunda	*Senna occidentalis*	Fabaceae	Herb	Skin disease etc
32	Arandi	*Riccinus communis*	Euphorbiaceae	Shrub	Antiseptic
33	Akaua	*Calotropis gigantea*	Apocynaceae	Shrub	Anti rabies
34	Punarnava	*Boerhaavia dffusa*	Nyctaginaceae	Herb	Liver disorders
35	Bari Kasondi	*Cassia occidentale*	Fabaceae	Shrub	Wound healing,
36	Nibu	*Citrus limon*	Rutaceae	Shrub	Gastric disorders
37	Tulsi	*Ocimum sanctum*	Lamiaceae	Herb	Anti-bacterial
38	Ghrit Kumari	*Aloe vera*	Liliaceae	Herb	Skin problems
39	Babul	*Vachellia nilotica*	Fabaceae	Tree	Teeth Problems
40	Arjun	*Terminalia arjuna*	Combretaceae	Tree	Heart diseases
41	Sehjan	*Moringa oleifera*	Moringaceae	Tree	Joint Pains
42	Aamla	*Phyllanthus emblica*	Phyllanthaceae	Tree	Immune booster
43	Lahsun	*Allium sativum*	Amaryllidaceae	Herb	Stomach Pain
44	Haldi	*Curcuma longa*	Zingiberaceae	Herb	Antiseptic
45	Lal Mirch	*Capsicum frutescens*	Solanaceae	Herb	Antibacterial
46	Azbain	*Trachyspermum ammi*	Apiaceae	Herb	Gastric Problems
47	Heeng	*Ferula asafoetida*	Apiaceae	Herb	Gastric Problems
48	Bathua	*Chenopodium album*	Amaranthaceae	Herb	Cold issues
49	Mehdi	*Lawsonia inermis*	Lythraceae	Herb	Migrain

49 plant species belonging to 48 genera and 28 families are commonly used for medicinal purposes by villagers in bithri chainpur recorded. It is also the bitter fact of this study that new generation after 1990 has no or least interest in folk science. The youngsters are increasing dose of allopathic medicines for common or life style related routine issues. Kitchen gardens are depleting very fast, the important medicinal plants replaced by alien floristic plants. Due to lack of interest of common people in medicinal plants, the number of rare plants is touching endangered category. The common man preferring paracetamol on Tulsi tea for headache. In case of stomach or gastric issues, they prefer intake of Eno than ajwain. In the condition of itching eyes or on the skin, youth like to intake ibuprofen instead of using nibori tubes or neem leaves hence the immunity of the society is continuously getting weakened, resulting in the increased mortality rate due to common climate or vector borne diseases as dengue. Today many medicinal plants face extinction or severe genetic loss, but detailed information is lacking Therefore, it is felt as an urgent need to conservation and record all ethno-medicinal information available with common peoples and ethnic communities before the traditional culture is completely lost. In such a challenging situation, the following efforts can be made to reestablish plant science and Ayurveda for social health.

1-Establishment of herbal garden to popularize the usefulness of commonly available and frequently used medicinal plants and sensitize the public about our traditional knowledge.
2-Regular Camps should Organize in the Campuses as well as in various parts of city from time to time through which consultations, treatments, provide to general public and beneficiaries.
3-Short term diploma courses after 12th in Ayurveda should be started for the local people.
4-Wide disparity in the duration of treatments using herbal medicines.
5-Describe the line of treatments that are available to overcome stress and stress related disorders.

No single sector, private or public, can undertake the conservation of medicinal plants alone. The job requires a team effort, involving a wide range of disciplines and institutions. it is essential to work in partnership with those who use medicinal plants – herbalists, plant collectors, health workers and local people, for example. NGOs should also be brought in from the beginning. The listed experts most needed for plant conservation and sustainable utilization of medicinal plants: -

I. Agronomists: To improve techniques for cultivating medicinal plants
II. Conservation Campaigners: To persuade the public of the need to conserve medicinal plants
III. Ecologists: To understand the ecosystems in which medicinal plants grow
IV. Ethnobotanists: To identify the use of plants as medicines in traditional societies
V. Health Policy-makers: To include conservation and utilization of medicinal plants in their policy and planning
VI. Horticulturists: To cultivate medicinal plants
VII. Legal Experts: To develop effective legal mechanisms that ensure that collection of medicinal plants is at levels that are sustainable
VIII. Park Managers: To conserve medicinal plants within their parks and reserves
IX. Park Planners: To ensure the park and reserve system contains the maximum diversity of medicinal plants
X. Pharmacognosists: To study the application of medicinal plants
XI. Plant Breeders: To breed improved strains of medicinal plants for cultivation
XII. Plant Genetic Resource Specialists: To assess and map the genetic variation in medicinal plants and maintain seed banks of medicinal plants
XIII. Plant Pathologists: To protect the cultivated medicinal plants from pests and diseases without using dangerous chemicals
XIV. Religious Leaders: To promote a respect for nature
XV. Resource Economists: To evaluate the patterns of use and the economic values of medicinal plants
XVI. Seed Biologists: To understand the germination and storage requirements of the seed of different medicinal plants
XVII. Taxonomists: To identify the medicinal plants accurately
XVIII. Traditional Health Practitioners: To provide information on the uses and availability of medicinal plants

Control Measures taken by Government to conserve rare and important medicinal plants: -

1.Enforcement of the Indian Forest Act; 1927; Wildlife (Protection) Act, 1972; Forest (Conservation) Act, 1980; Environmental (Protection) Act, 1986, and Biological Diversity Act, 2002
2.Red Data Book of Indian Plants published by Botanical survey of India provide information on 1236 threatened plant taxa in the country, including medicinal plants used in Ayurvedic System of Medicine. Some important medicinal Plants species of conservation concern in India are Aconitum heterophyllum (Atis), Aconitum atrox (Mitha), Bergenia ciliata (Pashan bhed), Commiphora wightii (Guglu), Dactylorhiza hatagirea (Salampanja), Nardostachys grandiflora (Jatamansi), Paris polyphylla (Satva), Picrorhiza kurrooa (Kutki), Podophyllum hexandrum (Bankakri), Rauvolfia serpentina (Sarpagandha), Rheum australe (Revand chini), Saraca asoaca (Ashok) etc
3.The National Medicinal Plants Board (NMPB), Government of India has taken initiatives to support in-situ conservation of medicinal plants through establishment of Medicinal Plants Conservation and Development Areas (MPCDAs) throughout the country.
4.A network of 108 Medicinal Plant Conservation Areas (MPCAs) has been established focusing on conservation of prioritized wild medicinal plants occurring in different regions of the country across 12 States with technical support from Foundation for Revitalisation of Local Health Traditions (FRLHT).
5.Under the provisions of Section 38 of the Biological Diversity Act, 2002, the threatened species are identified State-wise to prohibit or regulate their collection from wild and suggests measures for their rehabilitation
6.Ministry of Environment and Forest has established 18 Biosphere Reserves, 41 Tiger Reserves, 102 National Parks and 516 Wildlife Sanctuaries, 4 Community Reserves and 49 Conservation Reserves for in-situ conservation of biodiversity, including the Ayurvedic plants.

CONCLUSION:

The overall conclusion of the presentation is to initiate and support for conservation, management and sustainable utilization of medicinal plants for human and livestock health care and to promote in-situ conservation and sustainable uses of medicinal plants in and around site of global significance. It also promotes the Conservation of threatened species of medicinal plants and their habitats for livelihood security through conservation of wild medicinal plants based on sustainable harvesting and by implementing various conservation techniques.

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