



## Diversity, Indigenous use and Conservation of Medicinal Plant in Vindhya Region Madhya Pradesh

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### ABSTRACT

A study was conducted in the Rewa district of Vindhya region, Madhya Pradesh. Vindhya Region of Madhya Pradesh is rich in floristic is store house of valuable medicinal plants. The medicinal plants play an important Role in lives of Tribes and rural people, particularly in remote part of developing area in the Vindhya region. Human populations are dependent on medicinal plants for their substance particularly for medicine. In India more than 95% of the total medicinal plants used in preparing medicines by various industries are harvested from wild. The present study focused to assess the medicinal plant diversity in Vindhya region, Identify species preference, Native, Endemic and Threatened medicinal plants and suggests conservation measures. A total of 56 medicinal plants species belonging to 40 families were Recorded. Maximum medicinal plants were reported in the Vindhya Region. Maximum species were used for fever, stomach problem, skin eruption, asthma, gastric disorder, diarrhea, jaundice etc. were highly preferred species and continuous extraction from the wild for trade has increased pressure which may cause extinction of these species in near future. The present study reveals the diversity, indigenous use and conservation of medicinal plants in Vindhya region of Madhya Pradesh.

**Key Words:** Medicinal plants, Vindhya Region, Biodiversity, Conservation, Traditional.



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## INTRODUCTION

Medicinal plants have always been considered as a healthy source of life for the Tribal and Rural people becomes, medicinal plants have curative properties due to the presence of various complex and chemical substance of different composition. Which are found as secondary metabolites in one or more parts of the plants an estimated 350 million of the worlds pupil depend almost entirely for their substance and daily needs on forest particularly medicinal plants in the Vindhya region. The agronomical practice for growing few medicinal plants have been developed and now localized in many part of Vindhya region. Medicinal plants are particularly important to the rural poor but some of the common medicinal herbs are also used by rural poor and rich people as like Amla, Neem, Palash, Bhiringraj, Isobgol, Reetha, Brahmi, Babul, Bail, Jatropha, Jaiphal, Ratanjut, etc. The world health organization (WHO) estimated that nearly 80% of world's population particularly in Developing countries depends upon Traditional/Indigenous medicine for their primary health care needs. A major segment of These involve the use of medicinal plant and employed as a medicine in different civilization of the world (Ved Prakash 1988) An urgent need was felt for scientific documentation of Indigenous Wed son Related to medicine virtues of Plants amongst the ethnic groups.

In Vindhya region a large no. of medicinal plants have been carried out by various workers. Present study has been focused to, (1) assess the diversity, distribution, utilization patterns and indigenous use of medicinal plants (2) identify species preference (3) suggest conservation measures for sustainable management.

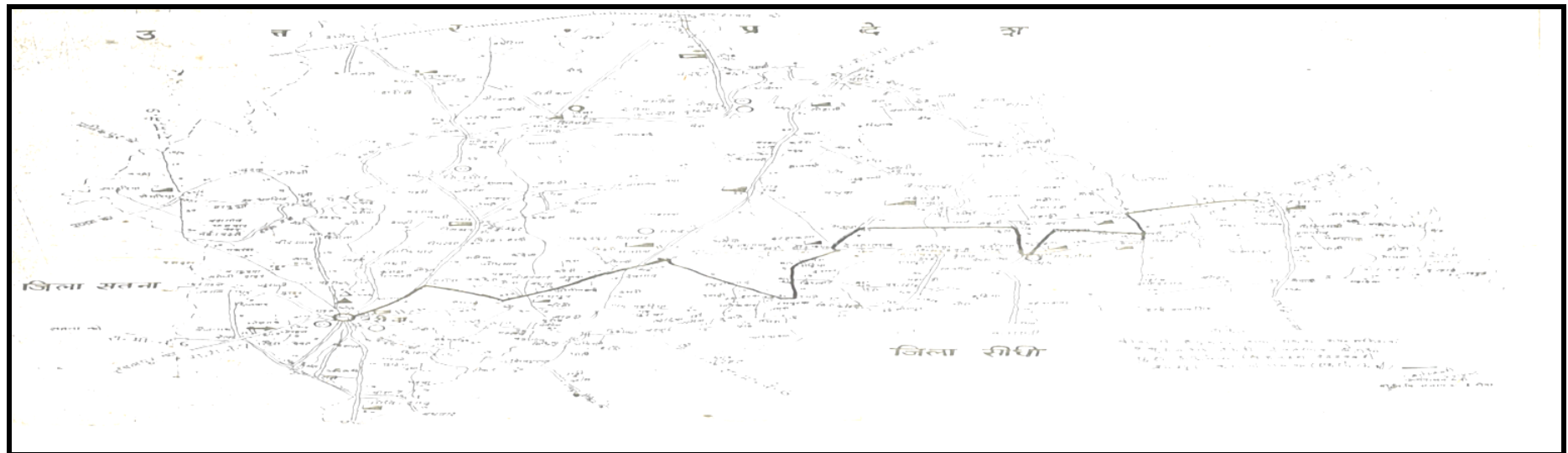
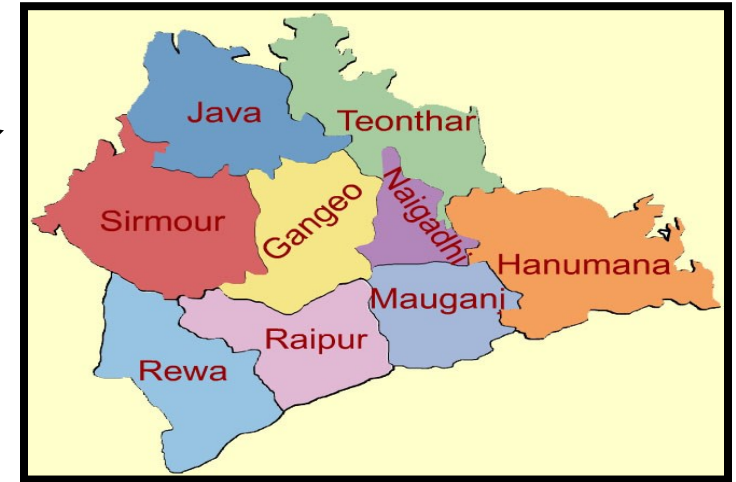
### The Study Area

Vindhya region is the main parts of our state and inhabited by a number of tribal and rural people. The present investigations have been carried out among the remote places scattered over different aria of the Vindhya region. The study sites were selected considering the distinct population of sites and population of the flora. The physiographic of the study area is very rough and hilly. The area is cylindrical in shape and the drainage pattern is of centripetal type. Structure conformity, earth surface behavior and geodynamic process as silting and erosion, consequently, tend to produce marked local climate or microclimate. Owing to its centripetal drainage pattern the area is subjected to continuo's erosion. The soil of the study area is mixed black, medium black and brown sandy. It is rich in lime contents and potash but deficient in nitrogen, organic carbon and phosphorus. The area is typically temperate and consists of mainly 3 distinct sessions (Oct. to March) however, the autumn (Oct.) and spring (mid-March-mid April) seasons also prevail in the area.

INDIA

MADHYA PRADESH

REWA - BLOCKS



## VILLAGES SELECTED FOR THE STUDY

| SN | Development Block  | Visited Villages                             |
|----|--------------------|----------------------------------------------|
| 1  | Rewa               | Govindgarh<br>Bhatlo<br>Silpara<br>Chorahata |
| 2  | Sirmour            | Rajgarh<br>Phool<br>Pathari<br>Keoti         |
| 3  | Raipur karchuliyan | Joginihai<br>Lohadwar                        |
| 4  | Naigarhi           | Sonwarsha<br>Bahuti<br>Shivrajpur            |
| 5  | Hanumana           | Nayagaon<br>Bhati                            |
| 6  | Gangeo             | Mahmoodpur<br>Teoni<br>Piparwar              |
| 7  | Teonthar           | Atrailla<br>Basrehi<br>Kuthila               |
| 8  | Jawa               | Akouri<br>Koria                              |
| 9  | Mauganj            | Deotalab<br>Raghunathganj                    |

## METHODOLOGY

During the course of present investigation following methods were adopted:

- The present investigation is based on Extensive survey and field work of remote place scattered over different district of the Vindhya region during January 2013 to December 2013.
- The survey and methodology was adopted to study the vegetation and gather ethno medicinal information's from the inhabitants as per method suggested by Jain (1989).
- During the field trip Author met with the villagers of various age groups and interacted with them in details following standard ethno-medicinal manual (Jain and Goel 1995).
- As much Information possible on the plants was collected and recorded in field book.
- The information about medicinal uses of plants was obtained from the Tribal people, local inhabitants, Hakims and field workers.
- The best of possibility after collection the specimen were identified with the help of flower (Duthie, 1994, Hooker 1872-1897 and Chopra et al. 1980). The collected and identified specimens have been deposited in the herbarium Botany Department, Govt. T.R.S. (Excellence) College Rewa.
- Confirmation of specimens were made with the help of floristic literatures (Verma et al. 1985; Oommachan and Shrivastava, 1996)
- Status and conservation of species were assigned as per method suggested by mc Neely et.al (1990), coxs (2000) and CBD (2001).

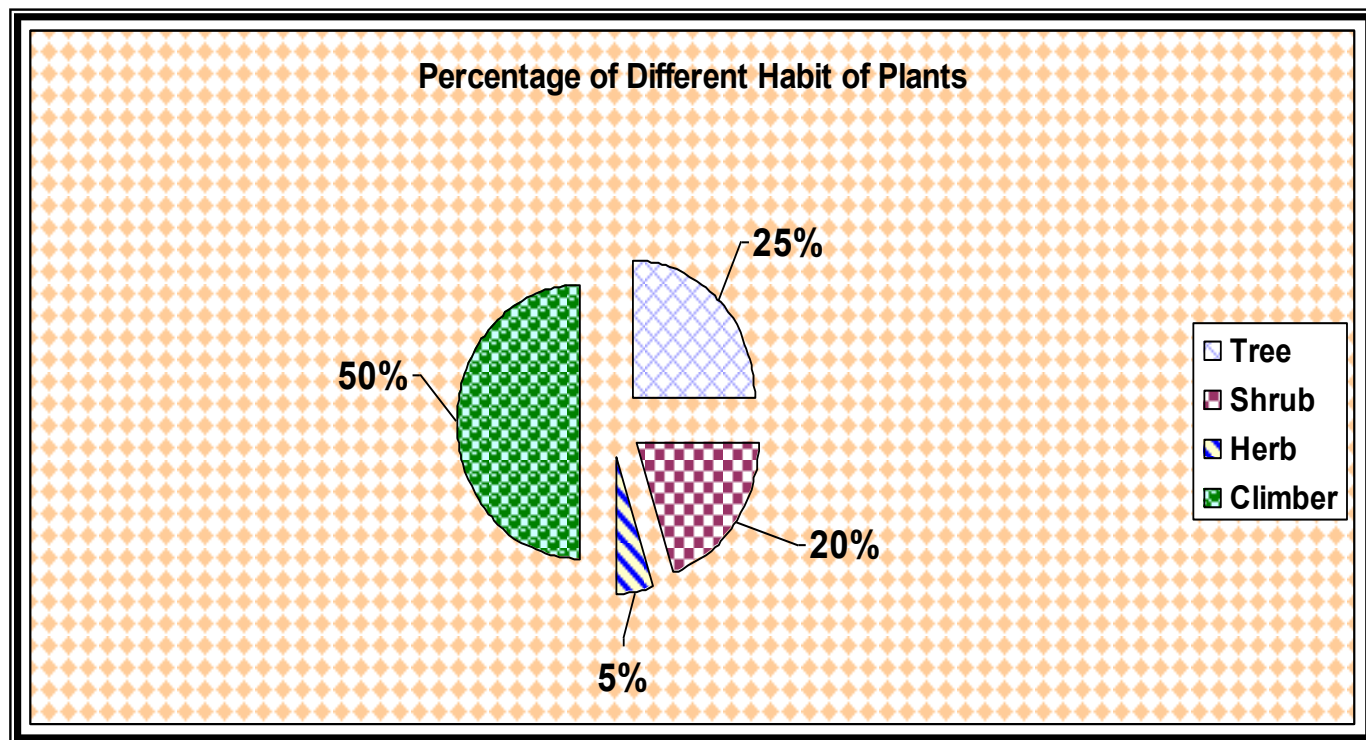
## CONSERVATIONAL STRATEGIES

Native bio diversities are source of economic wealth and pride of each country, composing it does a shining part of the national heritage. Obviously, our national medicinal requirements depend on ability to conserve all biological resources. Government support for conservation and supervision of medicinal plant development are often weak and ineffective. In some countries public sector agencies exercise and processing of such plants and other forest products, fostering in efficiencies, commercial development and preventing fair pricing for collectors. But even when they maintain such controls, exporting nations generally reap low return. It is therefore, essential to develop and adopt our own traditional technology for the conservation of biodiversity. Each vegetation has a particular from of species and each form is specially adapted to a particular site where it grows. Difference between them can be identified and used for better management. Vindhya region is a tremendous storehouse of potential resources not only for taxonomical or ecological researches but also as a source of yet less known medicinal plants. Medicinal plant populations have large and often disjunct area of distribution, white some species are confined to a few pockets. Conservation of these species is being done by the forest department with the participation of local people by raising stone wall fencing. By this process the naturally generated plant population would be increased. However, for a long term conservation and management of medicinal plants in- situ network need to be iterated into regular forestry and wild life management. Essential training should be given to the local people to involve them in protection and management of the biodiversity.

## RESULT AND DISCUSSION

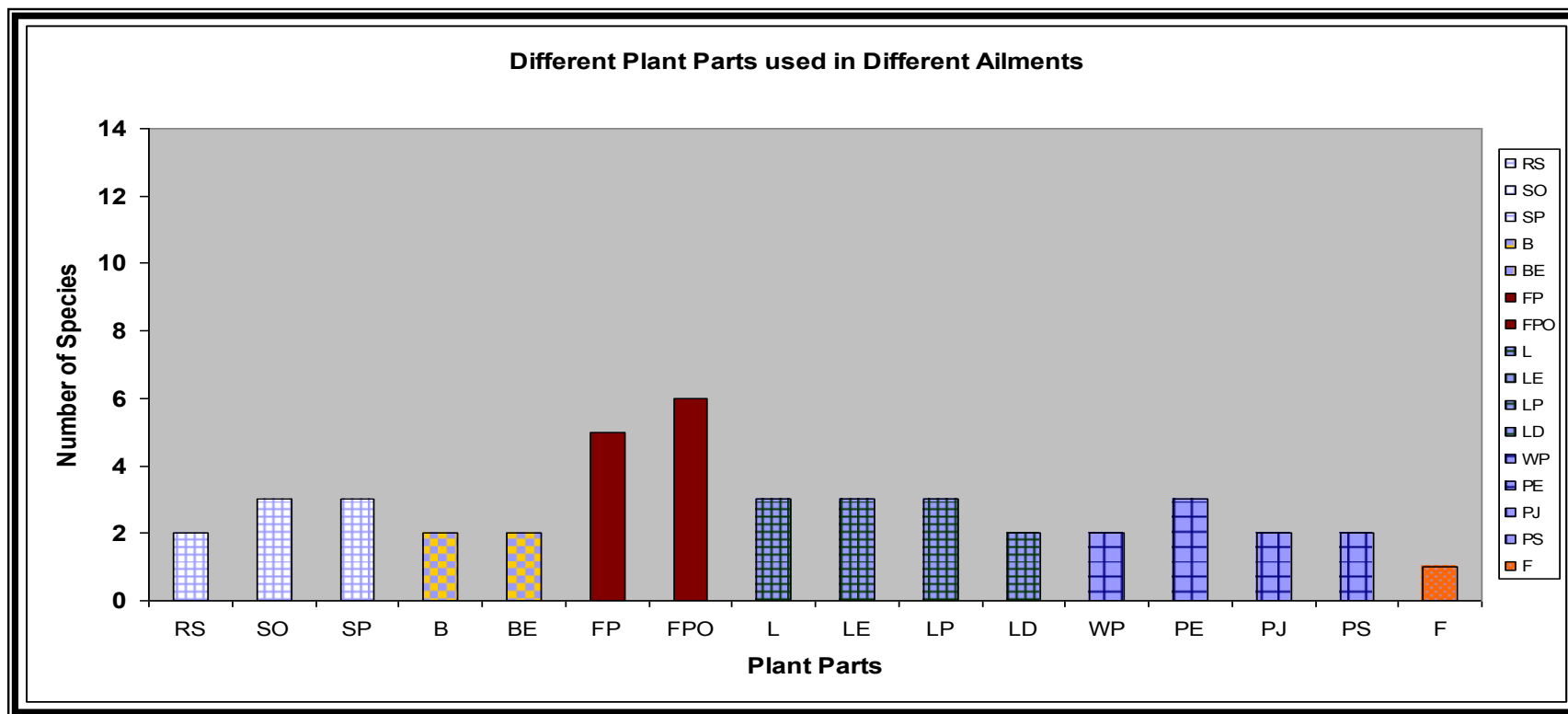
Fifty-six plant species distributed in 40 families were documented that was used in treating various ailments by the local communities of the Vindhya

Region. Of the total plant species 50% were herbs, 25% trees, 20% shrubs and 5% climbers.



The indigenous treatment is mainly focused on ailments like gastric problem, diarrhea, cough and cold, skin diseases, Fever, Bone fracture, cut and wounds, Diabetes, Blood pressure. The findings of this study indicate that people of the Vindhya Region evolved the mechanism of utility of various resources based on its availability.

However the knowledge about the importance of medicinal plants is more or less uniformly distributed among the local communities and it is a traditional knowledge. 16 different plant parts were used by local communities for different ailments.



|                   |                    |                      |                    |
|-------------------|--------------------|----------------------|--------------------|
| RS - Roasted Seed | BE - Bark Extract  | LE - Leaf Extract    | PE - Plant Extract |
| SO - Seed Oil     | FP - Fruit Pulp    | LP - Leaf Pultice    | PJ - Plant Juice   |
| SP - Seed Powder  | FPO - Fruit Powder | LD - Leaf Deccoction | PS - Plant Sap     |



B - Bark

L - Leaf

WP - Whole Plant

F - Flower

## Diversity of Medicinal plants in Vindhya Region and it's used in the Treatment of various disease and disorder.

| Botanical Name                             | Local Name   | Habit | Family          | Parts Used      | Disease                         |
|--------------------------------------------|--------------|-------|-----------------|-----------------|---------------------------------|
| <i>Abrus precatorious</i> L.               | Ratti        | H     | Fabaceae        | Root chewing    | Cough and URI                   |
| <i>Achyranthes aspera</i> L.               | Latjira      | H     | Amaranthaceae   | Roasted seeds   | Bronchitis                      |
| <i>Acacia catechu</i> Willd.               | Khair        | T     | Mimosaceae      | Bark            | Diarrhoea                       |
| <i>Acacia nilotica</i> (L.) Del.           | Babool       | T     | Mimosaceae      | Gum paste       | Burn                            |
| <i>Acorus calamus</i> L.                   | Bach         | H     | Araceae         | RhizomeJuice    | Cough & Asthma                  |
| <i>Aegle marmelos</i> (L.) Corr.           | Bel          | T     | Rutaceae        | Fruit pulp      | Gastric disorder                |
| <i>Allium sativum</i> L.                   | Lahsun       | H     | Liliaceae       | Fresh cloves    | URI                             |
| <i>Aloe vera</i> Mill.                     | Gheekumar    | H     | Liliaceae       | Leaf pulp       | Burn & Migraine                 |
| <i>Amorphophallus bulbifer</i> (Roxb.) Bl. | Suran        | H     | Araceae         | Roasted corm    | Piles Digestive disorder        |
| <i>Andrographis paniculata</i> Burm F.     | Kalmegh      | H     | Acanthaceae     | Plant decoction | Malaria, Jaundice               |
| <i>Argemone maxicana</i> L.                | Peelikateri  | H     | Papavaraceae    | Leafsap         | Ringworm                        |
| <i>Asparagus racemosus</i>                 | Satavar      | H     | Liliaceae       | Root powder     | Leucorrhoea Debility            |
| <i>Azadirachta indica</i> Juss.            | Neem         | T     | Meliaceae       | Leaf & Seed oil | Skin eruption                   |
| <i>Bauhinia purpurea</i> L.                | Kachnar      | T     | Caesalpiniaceae | Bark gargle     | Oral ulcer                      |
| <i>Boerhaavia diffusa</i> L.               | Punerva      | S     | Nyctaginaceae   | Root extract    | Viral hepatitis                 |
| <i>Bombax ceiba</i> L.                     | Semal        | T     | Bombacaceae     | Bark sap        | Diarrhoea                       |
| <i>Butea monosperma</i>                    | Palas        | S     | Fabaceae        | Bark extract    | Dysentery                       |
| <i>Calonyction muricatum</i> G. Don.       | Khotaliya    | H     | Convolvulaceae  | Pedicle Seed    | Appetizer Purgative             |
| <i>Calotropis procera</i> (L.) Br.         | Madar        | S     | Asclepidiaceae  | Roasted flower  | Asthma                          |
| <i>Cassia fistula</i> L.                   | amaltas      | T     | Caesalpiniaceae | Fruit pulp      | Gastric disorder                |
| <i>Cassia tora</i> L.                      | Chakura      | H     | Caesalpiniaceae | Leaf juice      | Ringwaorm                       |
| <i>Catharanthus roseus</i> L.Don.          | Sadabahar    | H     | Apocynaceae     | Leaf & Flower   | Diabetes                        |
| <i>Centella asiatica</i> (L.) Urban.       | Brahmi       | H     | Apiaceae        | Leaf extract    | Brain tonic                     |
| <i>Cilitoria ternata</i> L.                | Aparajita    | S     | Fabaceae        | Seed powder     | Purgative                       |
| <i>Cissus quardangularis</i>               | Harjoori     | C     | Viataceae       | Stem extract    | Bone fracture                   |
| <i>Convolvulus arvensis</i> L.             | Shankhapuspi | H     | Convolvulaceae  | Plant extract   | Brain tonic                     |
| <i>Curcuma longa</i> Vahl.                 | Haldi        | H     | Zingiberaceae   | Rhizome powder  | Respiratory and Joint disorders |
| <i>Cuscuta reflexa</i> Roxb.               | Amarbel      | C     | Convolvulaceae  | Plant paste     | Bone fracture                   |



| Botanical Name                      | Local Name     | Habit | Family        | Parts Used     | Disease              |
|-------------------------------------|----------------|-------|---------------|----------------|----------------------|
| <i>Abrus precatorious</i> L.        | Ratti          | H     | Fabaceae      | Root chewing   | Cough and URI        |
| <i>Cynodon dactylon</i> L.          | Doob           | C     | Poaceae       | Plant extract  | Menstrual trouble.   |
| <i>Datura metel</i> L.              | Dhatura        | H     | Solanaceae    | Leaf poultice  | Inflammation         |
| <i>Eclipta prostrata</i> L.         | Ghamira        | H     | Asteraceae    | Plant Juice    | Cut & Wounds         |
| <i>Emblca affinalis</i> Gaertn.     | Amla           | T     | Euphorbiaceae | Fruit powder   | Gastric diorder      |
| <i>Euphorbia hirta</i> L.           | Chhoti dudhi   | H     | Euphorbiaceae | Plant juice    | diarrhoea            |
| <i>Feronia limonica</i> L.          | Kaitha         | T     | Rutaceae      | Leaf past      | Boils                |
| <i>Ficus benghalensis</i> L.        | Bargad         | T     | Moraceae      | Bark extract   | Ma-                  |
| <i>Ficus racemosa</i> L.            | Umar           | T     | Moraceae      | Unripe fruit   | dia To be contd..... |
| <i>Ficus religiosa</i> L.           | Peepal         | T     | Moraceae      | Bark decoction | Gonorrhoea           |
| <i>Gloriosa superba</i> L.          | Kalihari       | H     | Liliaaceae    | Tuber extract  | Child birth          |
| <i>Jasminum humbile</i> L.          | Chameli        | H     | Oleaceae      | Leaf chewing   | Oral ulcer           |
| <i>Jatropha curcus</i> L.           | Ratnjot        | S     | Euphorbiaceae | Seed Oil       | skin eruption        |
| <i>Justicia adhatoda</i> L.         | Adusa          | S     | Acanthaceae   | Leaf decoction | Cough                |
| <i>Lawsonia alba</i> Lamk.          | Mehandi        | S     | Lythraceae    | Leaf poultice  | Feet sore            |
| <i>Lepidium sativum</i> L.          | Chansur        | H     | Brassiacae    | Seed Poultice  | Inflammation         |
| <i>Madlnuca longifolia</i> Roxb.    | Mahua          | T     | Sapotaceae    | Roasted        | Asthma               |
| <i>Mentha arvensis</i> L.           | Pudina         | H     | Lamiaceae     | Leaf Juice     | Gastric disorder     |
| <i>Mimosa pudica</i> L.             | Lajawanti      | H     | Mimosaceae    | Leaf exdtract  | Piles                |
| <i>Momordica charanthia</i> L.      | Karela         | C     | Cucurbitaceae | Fruit powder   | Diabetes             |
| <i>Moringa olecifera</i> Lam.       | Munaga         | T     | Morinaaceae   | Fruit pulp     | Appetizer            |
| <i>Mucuna puriens</i> Hk.           | Kemanch        | C     | Fabaceae      | Seedpowder     | Night dreams         |
| <i>Nigela sativa</i> L.             | Karayal        | H     | Ranunculaceae | Roasted seed   | Constipation         |
| <i>Nyctanthes arbor-tristis</i>     | Harsingar      | S     | Nyctaginaceae | Leaf decoction | Joint diseases       |
| <i>Occimum sanctum</i> L.           | Tulsi          | H     | Lamiaceae     | Leaf extract   | Cough & Fever        |
| <i>Oxalis Corniculata</i> L.        | Tinpatia       | H     | Oxalidaceae   | Leaf poultice  | Swelling             |
| <i>Peristrophe paniculata</i> Nees. | Chhoti harjori | S     | Acanthaceae   | Plant Plaster  | Bone fracture        |
| <i>Phyllanthus niruri</i> Auct.     | Bhuamla        | T     | Euphorbiaceae | Root extract   | Viral hepatitis      |
| <i>Physalis minima</i> L.           | Desi rasbhari  | S     | Solanaceae    | Leaf juice     | Earche               |
| <i>Pandanus fascicularis</i> Lamk.  | Kewara         | H     | Pandanaceae   | Flower powder  | Prickly heat         |

| Botanical Name                          | Local Name  | Habit | Family          | Parts Used     | Disease          |
|-----------------------------------------|-------------|-------|-----------------|----------------|------------------|
| <i>Abrus precatorious</i> L.            | Ratti       | H     | Fabaceae        | Root chewing   | Cough and URI    |
| <i>Rauwolfia serpentina</i> L.          | sarpagandha | H     | Apocynaceae     | Root extract   | Blood pressure   |
| <i>Ricinus communis</i> L.              | Aarand      | S     | Euphorbaceae    | Seed Oil       | Purgative        |
| <i>Sapindus emarginata</i> Vahl.        | Ritha       | T     | Sapindaceae     | Fruit pulp     | Hair shampoo     |
| <i>Solanum nigrum</i> L.                | Makoya      | H     | solanaceae      | Plant sap      | Viral hepatitis  |
| <i>Spilanthes calva</i> DC.             | akarkara    | H     | Asteraceae      | Plant extract  | Toothache        |
| <i>Syzygium cumini</i> (L.)             | Jamun       | T     | Myrtaceae       | Seed powder    | Diabetes         |
| <i>Tamarindus indica</i> L.             | Imli        | T     | Caesalpiniaceae | Fruit pulp     | Laxativ          |
| <i>Terminilia chebula</i> Retz.         | Harra       | T     | Combretaceae    | Fruit powder   | Gastric disorder |
| <i>Tinospora cordifolia</i> (L.) Mierr. | Giloya      | S     | Menispermaceae  | Stem powder    | Debility         |
| <i>Tribulus terrestris</i> L.           | Gokharu     | H     | Zygophyllaceae  | Fruit powder   | Asthma & cough   |
| <i>Tridax procumbans</i> L.             | Ghawapatti  | H     | Asteraceae      | Plant sap      | Piles            |
| <i>Terminilia arjuna</i> W. & A.        | Arjun       | S     | Combretaceae    | Bark decoction | Blood pressure   |
| <i>Terminilia bellerica</i> Gaertn.     | Bahera      | T     | Combretaceae    | Fruit powder   | Gastric disorder |
| <i>Vereiveriza zizaniodes</i> L.        | Khas        | S     | Poaceae         | Root powder    | Prickly heart    |
| <i>Withania somnifera</i>               | Ashwagandha | H     | Solanaceae      | Bark and seed  | Abdominal pain   |
| <i>Zingiber officinale</i>              | Adrak       | H     | Zingiberaceae   | Rhizome        | Headache, cough  |

To be contd.....

**Abbreviations: C-Climber, H-Herb, S-Shrub, T-Tree**

## CONCLUSION

The present work carries the result of diversity; Indigenous use and conservation of medicinal plant in Vindhya region Madhya Pradesh. It indicates the utilization of plants for the treatment of several diseases and disorders. The Tribal and rural people of the study area are mostly depending on herbal medicine to care various human ailments. Mostly medicinal plant parts are also concerned to prepare the drug. The present work included numerous valuable species of medicinal herb to care chronic disease. The study is restricted to medicinal plants; its findings are to a great extent relevant to the herbal remedies among the natives of the neighboring areas. Hence, this study will be a contribution to the ethnobotany of the region as a whole. The author has made efforts to enumerate the status of biodiversity and had tried to mention the conservation of vulnerable species of medicinal plants.

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