ASSESSMENT OF STATUS AND ROLE OF SACRED GROVES IN CONSERVATION OF BIODIVERSITY AT DIFFERENT LEVELS IN MADHYA PRADESH – DISTRICT CHHINDWARA

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PROJECT OBJECTIVES

- *To study the status of sacred groves.*
- *To inventorise the floral and faunal diversity.*
- *To study the status of endemic, rare and threatened medicinal plants in sacred groves*
- *To study and document the traditional knowledge about natural resources and their value*
- *To create awareness campaign among the local people about the natural resources and their utilization*

SPONSORING AGENCY

M. P. State Biodiversity Board, Bhopal (M.P)

IMPLEMENTING AGENCY

State Forest Research Institute, Polipather, Jabalpur (M.P.)

INTRODUCTION

In ancient times, Sacred Groves were places of sanctuary and worship for the Druids. Like a temple or chapel set within the natural world, they were places of spiritual refuge: places to calm the mind, refresh the spirit, and give comfort in times of distress. Druids today continue this tradition of seeking tranquility in woods and forests, in which they meditate and hold ceremonies. Many contemporary Druids are creating new sacred groves – in their gardens, on their farms or on public land. In 1988, the Order began the Sacred Grove Plantation Programme – offering support, advice, and financial aid to members of the Order and members of the community who wanted to create new sacred spaces across the world. As a result, thousands of trees, and hundreds of groves have been planted around the world. These groves form a network of woodland sanctuaries that radiate peace, and offer refuge to both wildlife and humankind.

Trees are universally powerful symbols, a physical expression of life, growth and vigour to urban, rural and forest dwellers alike. They can symbolize historical continuity and human society. They are often of frightening magnitude, linking earth and heavens, arbiters of life and death, incorporating both male and female aspects, and home to both good and bad spirits, including the souls of ancestors. Trees provide protection from harm, cure diseases and increase fertility. Trees preside over marriages, are planted at the birth of a child and at burial sites. In some origin myths, the first men and women were made of wood.

Sacred groves have a great significance from the point of view of biodiversity conservation because they contain some important species of flora and fauna that have been lost in the surrounding area. Unfortunately, most sacred groves in India are fast disappearing due to the pressures of development and the changing attitudes and values of the communities that protected them.

In India, and in many other countries, such as Ghana, Nigeria, Syria and Turkey, people used to set aside tracts of forest because they believed that a particular pocket of the forest had a resident god who must be protected. These areas, called “Sacred Groves”, have been protected by local communities over the ages. As a result of protection, these groves harbour a great diversity of plant and animal life.

Sacred groves are found in many parts of India – from, Meghalaya in the north-east to Rajasthan in the west and in many places along the Western Ghats. They range in area from a few trees to hundreds of hectares of forestland. In most of these groves, all forms of vegetation, including shrubs and climbers, belong to the diet. Grazing and hunting are prohibited, and only the removal of dead wood is allowed. One sacred grove in Mawphlang, 25 km from Shillong, has a deity so powerful that it is believed anyone, who damages the groves, dies.

Sacred groves have a great significance from the point of view of biodiversity conservation because they contain some important species of flora and fauna that have been lost in the surrounding area. Unfortunately, most sacred groves in India are fast disappearing due to the pressures of development and the changing attitudes and values of the communities that protected them.

In India, sacred groves are scattered all over the country, and do not enjoy protection by central or state legislation. Some NGOs work with local villagers to protect such groves.

Each grove is associated with a presiding deity, and the groves are being referred by different names in different parts of India. They are maintained by local communities where hunting and logging are strictly prohibited. Most of these sacred groves are associated with local Hindu gods and goddesses, whereas sacred groves of Islamic and Buddhist origins are also known. Sacred groves occur in a variety of places - from scrub forests in the Thar Desert of Rajasthan maintained by the Bishnois, to rain forests in the Kerala Western Ghats. Himachal Pradesh in the North and Kerala in the South are specifically known for their large numbers of sacred groves.

Around 14,000 sacred groves have been reported from all over India, which act as reservoirs of rare flora and fauna, amid rural and even urban settings. Experts believe that the total number of sacred grove could be as high as 100,000. Threats to the groves include urbanization, over-exploitation of resources, and environmental destruction from Hindu religious practices. While many of the groves are looked upon as abode of Hindu gods, a number of them have been partially cleared for construction of shrines and temples in the recent past.

Preservation of biodiversity, 'Animism' and 'naturalism' are part of the cultural life. Tribal populations have created and maintained the Sacred Groves in forest areas. These are found all over India in the tribal zones. Mostly, they represent the only surviving examples of climax vegetation. Such virgin forests are usually located at the origins of water springs in a wilderness area and in the catchment areas of river basins. A Sacred Grove is usually dedicated to a deity or a 'mother goddess' who is supposed to protect and preside over the Grove. It is believed that such Sacred Groves have been surviving for several thousand years. The degree of sanctity of these sacred forests varies. In some forests, even the dry foliage and fallen fruits can not be touched whereas in others, the deadwood may be picked up, but never the live trees or their branches and even the animals and birds are not disturbed. The Garo and Khasi tribes of North-Eastern India completely prohibit any human interference in their sacred groves. The Gonds of Central India prohibit the cutting of a tree but allow fallen branches to be used.

Sacred or holy places are found in different cultures, past and present, all over the world. Such places are frequently marked or embellished by architectural structures and art. There are many websites containing text and images which examine the nature of the sacred groves. It also explores how art and architecture serve to embody or manifest on both physical and spiritual planes the sacredness or mystery of a site. One of major aims is to explore how and why places become invested with sacredness. In most cases, it can be shown that the sacredness of a place is linked in some way to natural objects and features, such as trees, stones, water, mountains, caves, and forms in the landscape. It can further be shown that these natural objects and forms lie at the root of the forms and shapes employed to mark or embellish a sacred site. These same sacred forms and shapes derived from natural objects and features become symbolic or emblematic of the sacred or divine. When they are articulated in art and architecture, they become not only the 'abode' of the divine, but also serve as a means to entice the divine either to continue to reside at a given place or to take up residence at a new site.

The sacred groves of ancient times have become, in many cases, the 'Biosphere Reserves' of today and are found in several parts of India. The states with large tribal populations have the highest number of biosphere reserves in the form of wildlife sanctuaries and national parks.

Sacred Groves are technically defined with following definitions;

- "Sacred grove" is traditional means of biodiversity conservation.
- "Sacred groves" are tracts of virgin forest, the vestiges of an ancient practice in which people protect forest patches to avoid the perceived wrath of God.
- Anthropogenic tree stands raised in honour of heroes and warriors and maintained by the local communities with religious fervor.
- Mini biosphere reserves.

Sacred groves are often described as;

- Natural museum
- Treasure house of rare, endangered and endemic species.
- Dispensary of medicinal plants
- Recreation center for urban life
- Garden for botanists
- Gene bank of economic species
- Laboratory for environmentalists
- Paradise for nature lovers

In different areas, Sacred Grove is locally named as;

- "Deoriar" - Maharashtra
- "Sarnas" - Bihar
- "Orans" - Rajasthan
- "Devarkadu" - Karnataka
- "Kavu" - Tamilnadu & Kerala
- "Dav" - Madhya Pradesh

The Sacred Groves also play an important role as;

- Hot spots
- Lead to optimum level of biomass accumulation and $CO_2 = O_2$ balance locally.
- The thick vegetation with different layers of canopy facilitates the harvesting and distribution of rain water.
- The nesting place of many birds.
- The abode of many pollinator insects and bees.
- Helpful in checking the extension of desertification, degradation of soil and its erosion.
- Source of many medicinal plants.
- Sanctum sanctorum of many rare, endangered and endemic species to serve as gene banks.

Sacred groves are deteriorating at an alarming rate across the country. There is an urgent need to identify and protect these sacred groves to save nature in its pristine form.

PROJECT OBJECTIVES

- ***To study the status of sacred groves.***
- ***To inventorse the floral and faunal diversity.***
- ***To study the status of endemic, rare and threatened medicinal plants in sacred groves.***
- ***To study and document the traditional knowledge about natural resources and their values.***
- ***To create awareness among local people about natural resources and their utilization.***

STUDY SITE

Chhindwara is one of the districts of Madhya Pradesh state in India with its district headquarter in Chhindwara town and is part of Jabalpur Division. Chhindwara District has number of places of scenic beauty of which Tamia is one such place. Overlooking the Narmada Valley, Tamia is a picturesque holiday and picnic resort on Satpura ranges. From Tamia Rest House, the view of the Dudhi Plateau from 330 metres of sheer overchanging cliffs is one of the most spectacular views anywhere south of the Vindhyas. Tamia is situated at a distance of 78 km from Pachmarhi. There are also many Hindu temples in Chhindwara District.

Chhindwara district was formed on 1st November 1956. It is located on the South-West region of 'Satpura Range of Mountains'. It is situated between longitude of 21°.28' to 22°.49' North and latitude of 78°.40' to 79°.24' East and spread over an area of 11,84,943 ha. out of which 9,84,699 ha. and 2,00,244 ha. belong to revenue and forest areas, respectively. This district is bound by the plains of Nagpur District (in Maharashtra State) on the South, Hoshangabad and Narsinghpur Districts on the North, Betul District on the West and Seoni District on the East.

Chhindwara District ranks 4th in area in Madhya Pradesh State and occupies 3.85% of the area of the state. The District is divided into 9 Tahsils (Chhindwara, Parasia, Junnardeo, Tamia, Amarwara, Chourai, Bicchua, Sausar and Pandhurna) and 11 Development Blocks (Chhindwara, Parasia, Junnardeo, Tamia, Amarwara, Chourai, Bicchua, Harrai, Mohkhed, Sausar and Pandhurna). There are 4 Nagar Palikas (Chhindwara, Parasia, Junnardeo and Pandhurna), 8 Nagar Panchayats (Sausar, Amarwara, Chandameta Butaria, Newton Chikli, Harrai, Mohgaon, Chourai, and Lodhikheda). Besides these, there are 10 small towns (Dighawani, Jatachapar, Iklehara, Pagara, Kalichapar, Damua, Pala Chourai, Bhamori, Ambada and Badkuhi).

There are 1959 villages in the district, out of which 1896 villages are habitated including 49 forest villages and rest 63 are uninhabited. The district is divided into 19 Revenue Circles and 319 Patwari Halkas. There are 808 Panchayats in the district. As per Census 2001, the total population of the district is 18,49,283 out of which 76.90% belongs to rural areas. The Scheduled Caste population is 2,14,201 (11.06%) and Scheduled Tribes population is 6,41,421 (34.07%). There are 953 females for every 1000 males, and the population per square kilometer is 133. 'Chhindwara' is the Parliamentary Constituency in the district and there are 8 Assembly Segments (Jamai, Chhindwara, Parasia, Damua, Amarwara, Chourai, Sausar and Pandhurna).

It is believed that once upon a time the Chhindwara District was full of "Chhind" (Date-Palm) trees, and the place was named "Chhind"-"Wada" (wada means place). There is also another story that because of the population of Lions (in Hindi, it is called "Sinh"), it was considered that making entry into this district is akin to passing through the entrance of Lions' den. Hence it was called "Sinh Dwara" (means through the entrance of lion). In due course of time, it became "Chhindwara".

History records the place from the time of the rule of Bhakth Bulund King, whose kingdom was spread over the Satpura range of hills and it is belived that his rule was upto the 3rd Century. One ancient plaque, belonging to "Rashtrakut" dynasty was found in "Neelkanth" village. This dynasty ruled upto the 7th Century. Then came the "Gondvana"

dynasty which ruled the area with "Devgarh" as the capital. King 'Jatav' of 'Gond' community has built the Devgarh fort. Bhakth Bulund King was most powerful in the dynasty and he adopted Muslim religion during the rule of Emperor "Aurangjeb". Later, the power has changed many hands and finally 'Maratha rule' ended in 1803. On 17 September 1803, East India Company had taken over this kingdom by defeating 'Raghuji II', starting the British rule.

Population and Culture

Chhindwara District has majority of tribal population. The tribal communities include Gond, Pardhan, Bharia, Korku. Hindi, Marathi, Gondi, Urdu, Korku, Musai, Parvari etc. languages and dialects are in use in the district. Majority of the tribals speak in Gondi and Hindi mixed with Marathi. Among the cultural functions/festivals in the district, Pola, Bhujalia, Meghnath, Akhadi, Harijyoti etc. are famous ones. 'Gotmar Mela' of Pandhurna is unique and world renowned fair. On Shivrathri day, 'Mahadev Mela' is celebrated each year on "Choudagadh". Prominent tourist spots in the district include Patalkot, Tamia, Tribal Museum, Chota Mahadev Cave, Devgarh Fort, Nadadwari, Hot Water Spring at Anhoni and Radhadevi Caves and Jam Sanvli Temple (Near Sausar).

In Chhindwara district, we find the settlements of the Gond tribe, the largest tribe in central India. Poetry has been a passion for this tribe since times immemorial. Being the descendants of the rulers of the 14th century, they have contributed at large to the heritage of the state. The onset of the 18th century, however, saw the besprinkling of the tribe. Today, their primary occupation is agriculture. They have a knack of making bamboo and cane products and metal crafts, which form an important place in the traditional handicrafts. The official language of the Gond tribe is Gondi, which is in relation to Tamil and other Dravidian languages. The sub tribe of this community is the Bastar community that has created a benchmark for itself in making traditional jewellery and ornaments for the tribes. Madai is their traditional dance.

Gonds follow tribal endogamy and clan exogamy. Monogamous marriage is common among the Gonds but polygamy is not altogether unknown. Cross-cousin marriage (both paternal and maternal) is preferred. Parallel-cousin marriage has not been observed. They follow the system of patriarchy. Remarriages and widow marriages are also permitted. Divorces are very common among Gonds. Earlier, Gonds were mostly forest-dwellers but at present, they are settled as agriculturists and hence, are also referred as Kisan (Farmer). The food habits of Gonds are uniform. Their staple food is the gruel of millet and boiled rice. Both vegetarian and non-vegetarian foods are consumed by them. They hardly hesitate to consume any kind of meat except for the one belonging to their totemic systems. Beef-eating is generally restricted, showing their inclination towards Hinduism. The Gonds have a highly developed aesthetic sense. They indulge in merry-making and pleasure seeking which is manifested in dancing and singing and in celebration of festivals like Holi and Megnath swinging rite. Megnath is said to be the son of Ravan, the demon king of Lanka. They are highly superstitious and are always afraid of 'evil eyes' and other misfortunes like epidemics etc. The dead person, whether male or female, is buried. He is buried with the face upward, head to the south and feet to the north, in the clothes in which he died with a new cloth spread over the body. The body is not given bath before burial.

Folk dance, folk songs and folk music play vital role in the cultural life of Gonds. It is through music and dance that they keep themselves occupied in the evenings. Folk music and

dance give expression to their innermost feelings, their joys and sorrows, their natural affections and ideals, their appreciation of beauty towards nature and war. Every season and every socio-religious ceremony has specific songs. On the occasions of their important religious festivals and marriages, they are fond of dancing and singing the whole day and night. Both the male and female take active part in singing and dancing.

Folk dances of Gonds are popularly called as 'Karma'. 'Karma' is the name of the plant commonly grown in the area. Before the beginning of the ceremonial dance, a stem of the plant called 'Karam Kalla', is buried in the ground and the dancing troupe dances around this plant. Another interpretation of 'Karma' given by the local inhabitants, refer to the symbolic meaning attached to 'Kar' which means hand and 'ma' means to me. Thus, the literal meaning of Karma is to "give your hand to me and dance with me", as the movements in the dance involve holding the hands of the partner. This interpretation of Karma appears to be quite logical.

Hareli is the festival of rain. It is observed in the early period of rains. The goddess of crop 'Kutki Dai' is worshipped on this occasion to ensure better harvest. This is mostly in the months of July-August. 'Hareli' word is probably derived from Hindi word, 'Haryali' which means greenery as vegetation begins to bloom and there is greenery all around in this season.

Temperature and Rainfall

In district Chhindwara, daily temperature varies to a great extent during different seasons. The average maximum, minimum and daily temperatures, highest and lowest temperatures are given in the following table;

Temperature in °C	Mar. to June	July to Oct.	Nov. to Feb.
Average maximum daily temperature	26 to 40.6	24 to 36	21 to 30
Average minimum daily temperature	16 to 26	20 to 35	7 to 23
Average daily temperature	20 to 30	19 to 33	14 to 28
Highest temperature	50	39	34
Lowest temperature	11	18	2

Average rainfall has been recorded as 978.2 mm. Maximum and minimum rainfall recorded are 11255.5mm and 848.7mm in the district.

Geology

From the geographical point of view, Chhindwara district can be divided into three main regions;

- The plains near Nagpur region comprising of Sausar and Pandhurna tahsils.
- The central region comprising of Chhindwara, Southern part of Amarwara region and and Northern part of Sausar region. This region is also known as the Satpura mountain region.
- The third region is mostly the Northern region comprising of hilly terrain.

There are five major rivers which flow through the district namely Kanhan, Pench, Jam, Kulbehra, Shakkar and Doodh. Kanhan River flows in the Southern direction through the western parts of Chhindwara Tahsil and mixes with the Wenganga River. Jam river flows mostly through the Sausar region and joins with the Kanhan River. Pench River flows in the border areas of Chhindwara and Seoni Districts and mixes with the Kanhan River in Nagpur District. Kulbehra River starts at Umreth and flows through Chhindwara and Mohkhed and joins with Pench River.

Forest resources

The main forest tree species in Chhindwara district is teak. Mixed forests are also ample but Sal is negligible. As per Champion and Seth (1964 classification, the forests can classified as under;

5AC1b	-	Southern tropical dry deciduous teak forests.
5AC3	-	Southern tropical dry deciduous mixed forests.
5BC1c	-	Southern tropical dry peninsular Sal forests.

The teak forests are well distributed. Good quality teak forest is available in east-west Batkakhapa ranges, northern part of east-west Harrai ranges, Sillewani, Jakhawadi hilly areas of Chhindwara range, Kumbhpani-Gumtara area of Chaurai range adjacent to Pench National Park and the reserve compartments of Amarwada plateau. The site quality of these forest areas is generally IVa and IVb type. Teak constitutes 60% of the crop. Bamboo is mainly available in west Batkakhapa range composed of young to medium age class belonging to site quality of IVb and Va type.

The majority of forest area is of steep and moderate slope hilly topography in which so many rivers and streams flow. Almost half of area is composed of degraded forests and blanks and so, the problem of soil erosion is acute. Among the factors responsible for damaging the forests, man is the major player inflicting the damage in the form of excessive grazing, land encroachments and illicit tree felling. The grazing pressure is double that of the carrying capacity of forests. Fire incidents occur from February to May but situation remains under control. Attack of teak defoliator and skeletonizer is observed from August to October in rainy season.

Common tree species are *Adina cardifolia, Aegle marmelos, Angogeissus latifolia, Azadirachta indica, Bauhinia purpurea, Bauhinia variegata, Briedelia retusa, Buchanania lanzan, Butea monosperma, Careya arborea, Casia fistula, Cordia dichotoma, Dalbergia paniculata, Diospyros melanoxylon, Emblica officinalis, Feronia limonia, Ficus bengalensis, Ficus glomerata, Ficus religiosa, Flacourtia indica, Gardenia latifolia, Gmeliina arborea, Grewia tiliaefolia, Holoptelia integrifolia, Kydia calycina, Lagerstroemia parviflora, Madhuca indica, Mangifera indica, Mitragyna parvifolia, Ougenia oojeinensis, Pterocarpus marsupium, Randia dumetorum, Scheichera oleosa, Semecarpus anacardium, Sterculia urens, Soymida febrifuga, Syzygium cumini, Syzygium heyneanum, Tamarindus indica, Tectona grandis, Terminalia arjuna, Terminalia bellirica, Terminalia chebula and Ziziphus xylopyra.*

Shrubs species are *Anona squamosa, Calotropis gigantea, Helicteres isora, Indigofera pulchella, Ipomoea fistulosa, Jatropha curcas, Latana camara, Nyctanthes arbortristis, Ricinus communis, Vitex negundo and Woodfordia fruiticosa*. Climber species

are *Abrus precatorious, Ampelocissus latifolia, Aristolochia indica, Bauhinia vahlii, Butea superba, Celastrus paniculata, Clematis triloba, Mucuna prurita, Smilax zeylanica and Ventilago calyculata.* Herbs species are *Achyranthes aspera, Adhatoda vasica, Desmodium pulchellum, Cassia tora, Curculigo orchioidus, Eclipta prostrata, Ocimum sanctum, Solanum nigrum and Xanthium strumarium.* Grass species of ground flora are *Apuda mutica, Aristida setaceae, Arundo donax, Cymbopogon martini, Cynodon dactylon, Desmostachya bipinnata, Dichanthium annulatum, Eragrostis interrupta, Eragrotis tenella, Heteropogon contortus, Imperata cylindrica, Pennisetum hohenackeri, Saccharum spontaneum, Themeda guadrivalvis and Thysanolaena maxima. Cuscuta reflexa and Dendrophthoe falcatre* found as parasitic plants in the area.

METHODOLOGY

SACRED GROVES

To initiate the project, important tribal localities, pilgrim places and biodiversity rich areas of Chhindwara were identified with the help of field survey. Status survey and identification of sacred groves were done during first survey. The information related to location, climatic condition, physiographic features and importance of the area was collected and inventory of flora and fauna was also prepared based on seasonal survey.

To assess the diversity of medicinal plants, seasonal periodical surveys were conducted in the sacred groves. Phytosociological studies and vegetation analysis were carried out through quadrat method. Diversity indices were worked out using Shannon & Simpson formula. Status of rare and endangered medicinal plants is prepared and its degree was assessed. IUCN red list category was used for evaluating the status of medicinal plants.

Socio religious importance was ascertained with the help of local tribals. During important festivals, melas and other religious gatherings, the areas were surveyed to find out the relationship of tribal people and the sacred groves. Cultural relationship was also studied to know the importance of sacred groves. Rare, endangered and threatened species were identified with the help of seasonal bio-diversity studies of the area. Wild species, plant genetic varieties of economic importance were also collected for future research.

INVENTORY OF FLORISTIC DIVERSITY

An inventory of collected plant specimens was prepared following simultaneously the identification of plant specimens. All the collected and inventoried specimens were identified with the help Flora of Tamil Nadu" (Nair & Henry, 1983, Henry *et al.* 1987 & 1989), Flora of Bhopal (Oommachan, 1977), Flora of Jabalpur (Oommachan & Shrivastava, 1996). Name changes were confirmed from recent literature (Bennett, 1996) and finally the specimens were arranged in their respective families following the Bentham and Hooker's system of classification (1862-1883). Herbarium of collected plants specimen was prepared following the guidelines of Jain & Rao (1984). Relevant keys, description and illustration, if any, were used to determine the family, genera and species.

A list of all species found in all the sacred groves from the district was prepared and arranged family wise, species wises along with specifying the rare and endangered species. The collected plant species were also categorized habit were as large trees, medium trees, small trees, shrubs, climbers, parasites, epiphytes, grasses and herbs. Some economically important medicinal plants were collected in the vital form of whole plants, rhizomes, corns, bulbs and seeds for their *ex-situ* conservation.

ETHNOBOTANY

Initially, important localities and diversity rich areas of wild medicinal plants were identified and demarcated, with the help of field survey. For Ethno-botanical studies, the participation and involvement of tribals and local inhabitants were given prime importance. Potential habitats of important medicinal plants were identified. Moreover, potential threats to important habitats having high diversity of medicinal plants were listed and its degree assessed. Various collection and marketing methods of minor forest produces (MFPs) were

observed in this area. These were helpful in synthesizing information about current harvesting practices of medicinal plants, both in the form of data and photographic record. During seasonal sample collection, ethno-botanical information was gathered from knowledgeable persons of medicinal plants, including some tribals and local people. Thereafter, field notes were entered in the field diary and each specimen was given a specific collection number.

A list of all species, found in the area, was prepared specifying the rare and endangered species. According to particular habit, the collected plant species were also categorized as large trees, medium trees, shrubs, climbers, parasites, epiphytes, grasses and herbs. Some economically important medicinal plants were collected in the vital form of whole plants, rhizomes, corns, bulbs and seeds for the *ex-situ* conservation. These plants and plant vital parts were kept in the medicinal plant gene bank of State Forest Research Institute (SFRI) Jabalpur for further research and reference. During the course of survey, samples of about 141 plant species were collected and their status was measured using various phytosociological methods as given by Mishra (1968). A list of all species found in the areas was prepared keeping in view the IUCN list of endangered and rare species. For the species coming under these categories, important information related to location, climatic conditions, and physiographic features of the area was collected.

PHYTOSOCIOLOGY

Phytosociological studies were carried out by standard ecological methods of Mishra (1968) and Smith (1980) by laying quadrats in different localities of the sacred groves. Selection of sites for sampling was done by random sampling procedure. Quadrats of 40 x 40m size were laid out in various potential areas of sacred groves following Nautial *et al.* (1987). This was done to get maximum representation of different potential areas. The girth at breast height (gbh.) of all trees above 20 cm gbh in each 40 x 40m size quadrat was measured and recorded species wise following Parthasarthi & Karthikeyan (1997). Two quadrats each of size 10 x 10 m were laid within the 40 x 40m size quadrats for sampling of shrub species, while three quadrats each of size 1 x 1m were also laid under the 10 x 10m size quadrats for ground flora enumeration.

The IVIs of important species were calculated by using frequency, density and abundance. The various formulae used in the study are:

$$\text{Density} = \frac{\text{No. of individuals per species}}{\text{Area of plot}}$$

$$\text{Relative Density} = \frac{\text{Density of a species}}{\text{Density of all species}} \times 100$$

$$\text{Frequency} = \frac{\text{No. of plots in which species occur}}{\text{Total no. of plots}}$$

$$\text{Relative frequency} = \frac{\text{Frequency of a species}}{\text{Frequency of all species}} \times 100$$

$$\text{Dominance} = \frac{\text{Area of canopy covering / Basal area of a sp.}}{\text{Area of sample plot}}$$

$$\text{Relative dominance} = \frac{\text{Dominance of a species}}{\text{Dominance of all species}} \times 100$$

IVI = Relative density + Relative frequency + Relative dominance

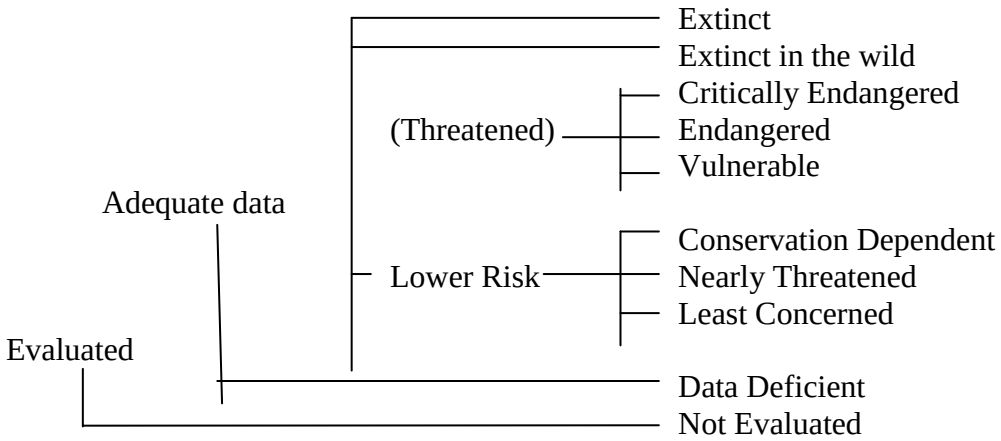
$$H = -\Sigma \left(\frac{ni}{N}\right) \log \left(\frac{ni}{N}\right)$$

Where H = Shannon Wiener Diversity Index
ni = Number of species
N = Total number of individuals
Log implies to log base 10.

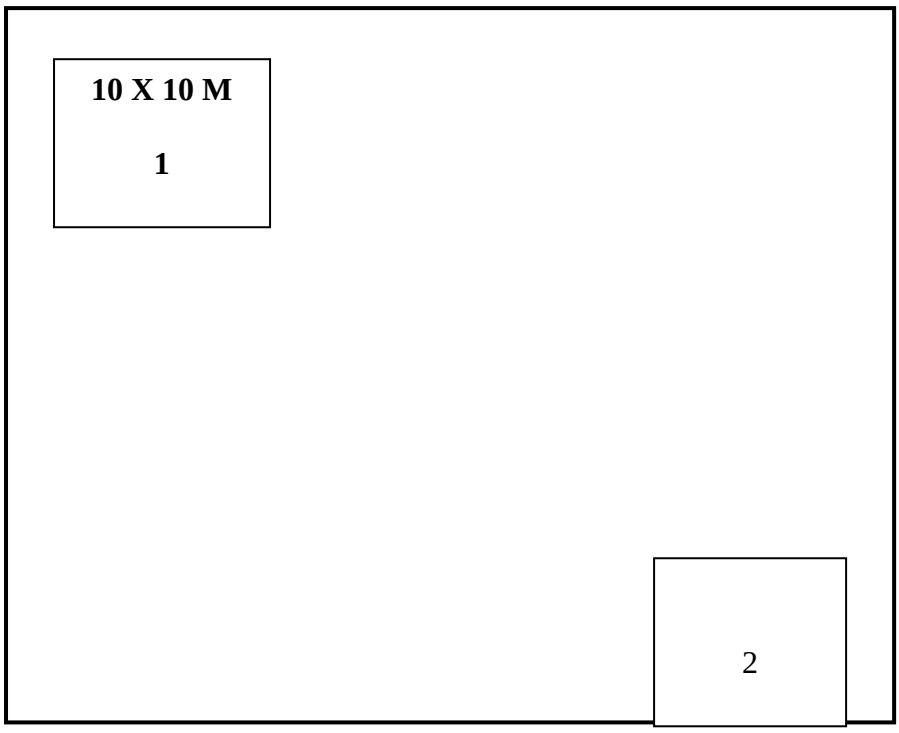
INVENTORY OF RARE AND ENDANGERED MEDICINAL PLANTS

Inventory of rare and endangered medicinal plants was prepared based on seasonal survey and available field information. Potential threats to each habitat having high diversity in medicinal and aromatic plants were listed and its degree was assessed. IUCN Red list categories for evaluating the status of medicinal plants have been followed as given below:

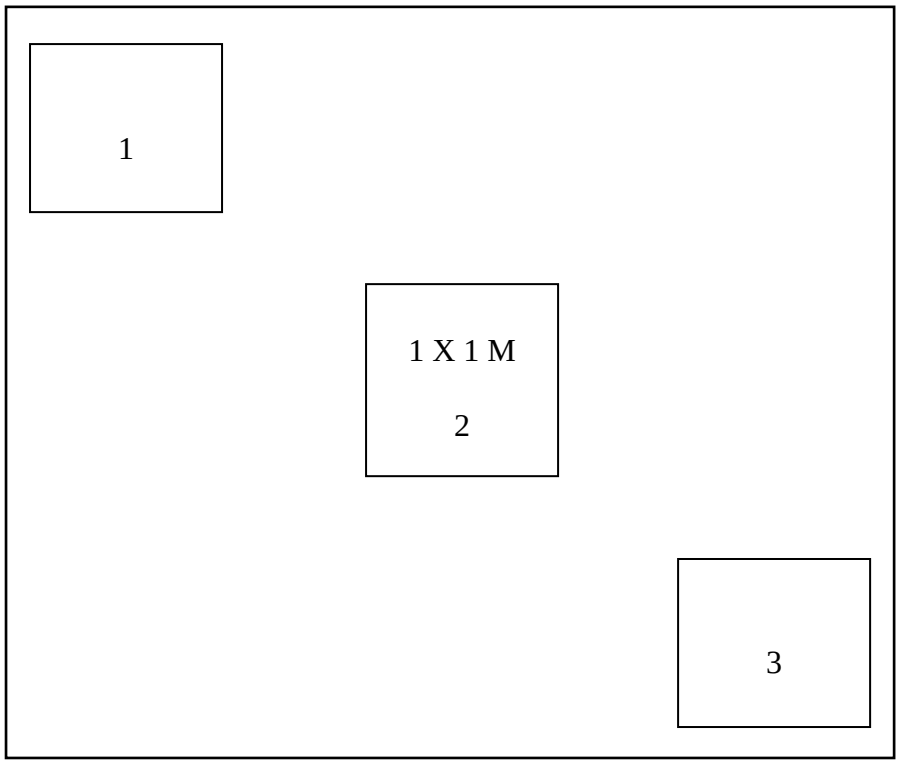
IUCN RED LIST CATEGORIES



PATTERN OF LAY OUT QUADRAT



Size of Quadrat: 40 x 40 m



Size of Quadrat: 10 x 10 m

OBSERVATIONS AND DISCUSSIONS

REVIEW OF LITERATURE AND COLLECTION OF SECONDARY INFORMATION

Secondary data with reference to information of district (area, population, maps, etc.) were collected from different sources and concerned departments.

Published works on plants, animals, scared groves, forest composition, ethnobotany, medicinal plants, multifarious uses of plants, NTFPs, etc. obtained from different sources was reviewed.

IDENTIFICATION OF SACRED GROVES

A total of 49 Sacred Groves were identified from Chhindwara district of Madhya Pradesh. The details of identified Sacred Groves are given in **Table - 2** with names of tehsil and forest range, forest compartment number in which the Sacred Grove is situated, name of Scared Grove, name of god and goddess worshiped, name of other god and goddess worshiped along with leading god, approximate area covered by the Sacred Grove (in m^2), year of existence of Sacred Grove (in number of years) and location of Sacred Grove from neighbouring village.

During the study 13 forest ranges of west, south and east Chhindwara forest divisions were covered. The number of Sacred Groves identified from different ranges is given in **Table - 1**. The highest 10 Sacred Groves were identified from Parasia range. **(Fig. – 1)**

Table - 1: NUMBERS OF SACRED GROVES IDENTIFIED FROM DIFFERENT FOREST RANGES

Name of Forest Range	Number of Sacred Groves
Amarwada	7
Ambada	1
Bichhua	2
Chaurai	2
Damua	4
Harraii	2
Jamaii	2
Pandruna	6
Parasia	10
Sausar	5
Sillewani	2
Tamia	6
Total	**49**

Major God and Goddess worshiped in the above mentioned Sacred Groves are namely Nandagiri Shiv, Gorakhnath, Gorakhnath and Machhindernath, Sidhnathbaba, Hinglaj Devi, Junnardeo, Deorani Dai, Shanideo, Hanuman, Bajrangbali, Mahulwale Bajrangbali, Ram, Durga, Saiiyadbaba, Badi Chandimata, Choti Chandimata, Golaiwalebaba, Nainadevi, Banjarimaii, Hanuman, Sankar, Krishna, Meera, Shardadevi,

Table - 2: Details of Sacred Groves identified in Chhindwara district

S. No.	NAME OF TEHSIL	NAME OF FOREST RANGE	FOREST COMPARTMENT NUMBER	NAME OF SACRED GROVE	DEITY WORSHIPPED IN SACRED GROVE	NAME OF OTHER DEITY	APPROX. AREA (m^2)	No. of years of existence	Distance from the near village in Kms
1.	Junnardeo	Damua	P - 437	Nandagiri Shiv Mandir	Nandagiri Shiv	Sankar, Krishna, Hanuman	100	50	0.5
2.	Junnardeo	Damua	P - 363	Gorakhnath	Gorakhnath	NA	100	100	6
3.	Junnardeo	Damua	P - 363	Gorakhnath and Machhindernath	Gorakhnath and Machhindernath	NA	50	150	5
4.	Junnardeo	Damua	P - 449	Sidhnathbaba	Sidhnathbaba	NA	500	75	0.5
5.	Tamia	Tamia	P - 202	Badi Chandi Mata	Chandimata	NA	50	100	3
6.	Tamia	Tamia	P - 209	Choti Chandi Mata	Chandimata	NA	50	50	0.5
7.	Tamia	Tamia	P - 217	Majhar (Golaiwali Majhar)	Unknown Baba	NA	50	75	0.5
8.	Tamia	Tamia	P - 215	Tultula Nainadevi	Nainadevi	Durga, Hanuman, Shankar	10	75	5
9.	Tamia	Tamia	P - 215	Banjarimaii	Banjarimaii	NA	10	100	3
10.	Junnardeo	Jamaii	RF - 471/472	Hinglaj Devi	Hinglaj Devi	Hanuman, Shardadevi, Shankar, Krishna	200	100	4

11.	Junnardeo	Jamaii	RF - 455	Junnardeo Mandir	Junnardeo mahadeo	Shankar, Hanuman	200	100	3
12.	Tamia	Tamia	-	Hanuman Mandir	Hanuman	NA	10	35	3
13.	Parasia	Parasia	RF - 687	Deorani Dai	Deorani Dai	Shardadevi	50	40	2
14.	Parasia	Parasia	RF - 724	Sanideo Mandir	Shanideo	NA	50	40	3
15.	Parasia	Parasia	RF - 724	Hanuman Mandir	Hanuman	NA	10	25	4
16.	Parasia	Parasia	RF - 720	Bajrangbali Mandir	Bajrangbali	NA	50	20	8
17.	Parasia	Parasia	RF - 721	Mahulwale Bajrangbali	Bajrangbali	NA	50	15	3
18.	Parasia	Parasia	RF - 722	Pathraii Ram Mandir	Ram	Lakshman, Sita, Hanuman	50	40	3
19.	Parasia	Parasia	RF - 720	Durga Mandir	Durga	NA	50	100	1.5
20.	Parasia	Parasia	RF - 720	Saiiyadbaba ki Majhar	Saiiyadbab	NA	50	50	2
21.	Pandurna	Pandurna	P-2051	Shiv Mandir	Shiv	NA	20	100	0.5
22.	Pandurna	Pandurna	P-2017	Bhuli Mandir	Shiv	Durga, Dadaji	500	50	2
23.	Pandurna	Pandurna	1779	Dadaji Ka Mandir	Dadaji	NA	500	100	4
24.	Sausar	Sausar	1882	Pollerdeo	Pollerdeo	Hanuman	50	50	5
25.	Sausar	Sausar	1881	Bheemsen Devta	Bheemsen	NA	20	50	2
26.	Sausar	Ambada	1904	Lambadeo	Hanuma	NA	50	50	1
27.	Sausar	Sausar	1922	Bagdeo / Banjarimata	Bagdeo, Banjarimata	Bagdeo, Banjarimata	50	50	2

28.	Sausar	Sausar	1921	Badadeo	Badadeo	NA	50	50	1
29.	Sausar	Sausar	1952	Chipadghondi	Chipadghondi	NA	20	50	1
30.	Sausar	Sillewani	1714	Banjarimata	Banjarimata	NA	100	80	2
31.	Sausar	Sillewani	1716	Taj Wale Baba	Taj Wale Baba	NA	50	90	3
32.	Bicchua	Bicchua	1505	Shankar Van	Shankar	Durga	500	80	0.5
33.	Bicchua	Bicchua	1501	Ambamaii	Ambamaii	NA	50	10	1
34.	Parasia	Parasia	682	Siddhababa	Siddhababa	Hanuma	100	100	6
35.	Parasia	Parasia	688	Matadai	Matamaii	Durga	100	80	2
36.	Harraii	Harraii	1107	Bausai	Bausaideo	NA	50	50	2
37.	Harraii	Harraii	1118	Matamandir Kokanpat	Matamandir	Dadaji, Durga	500	100	2
38.	Amarwada	Amarwada	1204	Maihar Wali Mata	Maihar Wali Mata	NA	200	50	1
39.	Amarwada	Amarwada	P - 1137	Baratgadh	Sidhababa	NA	50	70	1
40.	Amarwada	Amarwada	1204	Dulha Deo	Dulha Deo	NA	100	25	1
41.	Chaurai	Chaurai	1375	Kuwari Bhimsen baba	Bhimsen Baba	NA	50	50	2
42.	Chaurai	Chaurai	1375	Chauki ghat	Sharda	NA	50	22	0.5
43.	Pandruna	Pandruna	P-1774	Jhikkudhana Dada	Kabir	NA	300	50	1
44.	Amarwada	Amarwada	1204	Sharda Saliwada	Sharda Saliwada	Shiva, Hanumanji, Kalimata	500	50	3
45.	Amarwada	Amarwada	1224	Bnjari Mata	Bnjari Mata	NA	200	50	1
46.	Amarwada	Amarwada	1224	Majar	Peer Baba	NA	500	10	2

47.	Pandruna	Pandruna	-	Dhuniwale baba	Dhuniwale	NA	50	50	0.5
48.	Amarwada	Amarwada	1155	Sidha baba	Sidha baba	NA	400	50	1
49.	Chaurai	Chaurai	RF - 1375	Dongerdeo	Dongerdeo	NA	200	50	1

Lakshman, Sita and Durga. Out of 49 identified Sacred Groves, 34 are worshiped for different gods and 15 for different goddesses **Fig. - 2**.

Extent of sacred groves varies considerably some sacred groves have only few trees occupying small area of only about $10m^2$, whereas others are much longer also. The extent of these groves varies in the range of $10m^2$ - $500m^2$, Table -3 shows the distribution of sacred groves in different area classes. It can be seen from the data given in this table that maximum number (22) of groves is in the area class of $50m^2$. The average area of sacred groves works out to about $143m^2$. During the survey, it was reported by the villages that the area of these sacred groves have been shrinking gradually due to increased anthropogenic activities like cooking, family gathering, marriage ceremony etc. performed in these sacred groves or which the vegetation around the deity trees is cleared resulting to loss of biodiversity. **(Fig. 3)**

Table - 3: Number of Sacred Groves occupying different area classes (in m^2).

Approximate Area (m^2)	Number of Sacred Groves
A - (10 m^2)	4
B - (20 m^2)	3
C - (50 m^2)	22
D - (100 m^2)	6
E - (200 m^2)	5
F - (300 m^2)	1
G - (400 m^2)	1
H - (500 m^2)	7
Total	**49**

Existence

Age of the sacred groves in Chhindwara district is also quite variable, as shown in Table – 4. It can be seen that out of the total 49 groves in the district, 38 groves are in existence for 50 or more years and of them 11 are more than 100 years old. These older groves are situated in Damua, Tamiya, Jamai, Parasia and Padurna forest ranges and it is not merely a coincidence that these ranges are primarily tribal dominated areas. 1 sacred grove the oldest one, situated in Comptt. No. P-363 of Damua range has been in existence for last 150 years. Gorakhnath and Machhindranath are the deities in this sacred grove **(Fig. 4)**. On the other hand, few groves have been recently formed, two of them being only 10 years old. It shows that new sacred groves are also coming up which is good for biodiversity conservation.

Table - 4: Number of sacred groves under different years of existence.

Year of Existence Class of Sacred Groves	Number of Sacred Groves
A - (10 Years Old)	2
B - (15 Years Old)	1
C - (20 Years Old)	1
D - (22 Years Old)	1
E - (25 Years Old)	2

F - (35 Years Old)	1
G - (40 Years Old)	3
H - (50 Years Old)	19
I - (70 Years Old)	1
J - (75 Years Old)	3
K - (80 Years Old)	3
L - (90 Years Old)	1
M - (100 Years Old)	10
N - (150 Years Old)	1
Total	**49**

Distance

The data regarding distances of the sacred groves from the nearly villages were also analysed and are shown in Table – 5. It can be seen from this data that villagers prefer to established sacred groves near village, so that they can easily walk down this distance within couple of hours. Out of the total 49 groves, 46 groves are located within a distance of 5 kms. and if them, 31 groves are within 2 kms. from the adjoining village. **(Fig. 5)**

Table - 5: Number of sacred groves under different distance classes (in Kms).

Distance Class Sacred Groves from Nearby Village	Number of Sacred Groves
A - (0.5 Km)	8
B - (1 Km)	11
C - (1.5 Kms)	1
D - (2 Kms)	11
E - (3 Kms)	9
F - (4 Kms)	3
G - (5 Kms)	3
H - (6 Kms)	2
I - (8 Kms)	1
Total	**49**

DETAILS OF SACRED GROVES IDENTIFIED FROM CHHINDWARA DISTRICT

Sacred Grove - 1

District	Chhindwara
Tehsil	Junnardev
Block	Junnardev
Forest Range	Damua
Name of nearby Village	Nandan (Kalichappar)
Population	10000 Male 6000, Female 3500, Children 500
Tribe composition Baiga/Gond/Panka	Gond, Adiwasi, Harijan
Name of Sacred Grove	Nandagiri Shiv mandir
Water bodies	Kanhan river
Location of Sacred Grove	Near Nandan Kalichappar, Comptt no. P - 437
Distance from District Headquarter	70 km.
Distance from Tehsil	2 km.
Distance from Near by village	500 meters
Area Occupied by Sacred Grove	100 m^2
No. of years in existence	50 years
Tradition (Manyata)	Information is not available
Name of Deity	Nandigiri, Nandadeo
Other Deity if any	Sankar, Hanuman, Radha-Krishna
Name of Guniya / Priest	Vinayak Rao Mathankar
Type of Sacred Grove - Collective (Common) / Individual (Family)	Collective
Kind of Offerings dedicated	Milk, Curd, Bhang, Wood apple leaf, Thorn apple leaves and flowers, Flowers, Gram, Chironji (made up of sugar), Coconut, Incense stick, Sweets, No live sacrifices offerings allowed.
Any devotional Song / Dance/Rituals	Shiv Mantra, Traditional Prayer
Entry Freedom-Y/N Any Specific day	Yes, opened for all, any day any time
Day of Worship	Daily. Special prayer is offered on third Monday of each month
Time of Worship	Prayer timings are 6:00 am – 12:00 pm. and 3:00 pm – 8:30 pm.
On the Festival	Shivratri and Sawan months
Rules followed	No specific or strict rule followed, but common rules like entry without shoes, after taking bath and makes ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	The temple is on the top of the hill and surrounding hill area is barraned due to felling and heavy grazing pressure so fencing and plantation of trees will be recommended to protect about 2 to 3 hectare area.
Plants and its associates	*Diospyros melanoxylon , Tectona grandis Tamarindus indica , Aegle marmelos , Ficus benghalensis, Bauhinia vahlii, Azadrachta indica Lagerstroemia perviflora, Anogeissus latifolia Syzygium cumini, Terminalia arjuna, Butea monosperma, Madhuca indica, Lantana camara*

Sacred Grove - 2

District	Chhindwara
Tehsil	Junnardev
Block	Junnardev
Forest Range	Damua
Name of nearby Village	No
Population	NA
Tribe composition Baiga/Gond/Panka	NA
Name of Sacred Grove	Gorakhnath
Water bodies	River - natural hilly river
Location of Sacred Grove	Comptt. no. P-363
Distance from District Headquarter	75 km.
Distance from Tehsil	25 km.
Distance from Near by village	6 km.
Area Occupied by Sacred Grove	100 m^2
No. of years in existence	100 years
Tradition (Manyata)	Information is not available
Name of Deity	Gorakhnath
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove - Collective (Common) /Individual (Family)	Collective
Kind of Offerings dedicated	Wood apple leaf, Coconut, Betel nut, Rice, Incense stick
Any devotional Song / Dance/Rituals	Har Har Mahdev slogan has been pronounced by every visitors
Entry Freedom-Y/N Any Specific day	Yes, Daily
Day of Worship	15 to 20 days during Shivratri
Time of Worship	NA
On the Festival	Shivratri
Rules followed	No live sacrifices are allowed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Nearly about 1 to 2 ha. area needed fencing for conservation of water resource which will be utilized by wild animals for drinking and local plants.
Plants and its associates	*Terminalia tomentosa, Diospyros melanoxylon Tectona grandis , Aegle marmelos , Bauhina vareigata, Ficus benghalensis, Azadrachta indica, Embilica officinalis, Lagerstroemia perviflora, Anogeissus latifolia, Terminalia arjuna Acassia catachu, Butea monosperma, Madhuca indica, Lantana camara.*

Sacred Grove - 3

District	Chhindwara
Tehsil	Junnardev
Block	Junnardev
Forest Range	Damua
Name of nearby Village	No
Population	NA
Tribe composition Baiga/Gond/Panka	NA
Name of Sacred Grove	Gorakhnath and Michhnidarnath
Water bodies	Saptdhara river
Location of Sacred Grove	Comptt. No. P-363
Distance from District Headquarter	76 km.
Distance from Tehsil	20 km.
Distance from Near by village	05 km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	150 years
Tradition (Manyata)	All wishes have been fulfilled
Name of Deity	Gorakhnath and Michhnidarnath
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove –Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Wood apple leaf, Coconut, Chironji (made up of sugar), Betel nut, Rice
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes Shivratri
Day of Worship	from Shivratri up to 1 week
Time of Worship	NA
On the Festival	Shivratri
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	1 ha. area of adjoining Sacred Grove is needed fencing
Plants and its associates	*Terminalia tomentosa, Diospyros melanoxylon , Tectona grandis, Tamarindus indica, Aegle marmelos, Bauhina vareigata, Ficus benghalensis, Sterculia urens, Azadrachta indica, Embilica officinalis, Lagerstroemia perviflora, Anogeissus latifolia, Pterocarpus marsupium, Syzygium cumini, Terminalia arjuna, Acassia catachu Butea monosperma, Albizia procera, Madhuca indica, Vernonia cineria, Lantana camara.*

Sacred Grove - 4

District	Chhindwara
Tehsil	Junnardev
Block	Junnardev
Forest Range	Damua
Name of nearby Village	Damua
Population	9000 Male 5000, Female 3500, Children 500
Tribe composition Baiga/Gond/Panka	Gond and others casts
Name of Sacred Grove	Sidhanath Baba
Water bodies	Well and Handpump
Location of Sacred Grove	Damua Comptt. no. P-449
Distance from District Headquarter	75 km.
Distance from Tehsil	25 km.
Distance from Near by village	500 meters
Area Occupied by Sacred Grove	500 m^2
No. of years in existence	75 years
Tradition (Manyata)	NA
Name of Deity	Siddhnath baba
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove - Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Milk, Coconut, Chironji(made up of sugar)
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes, Shivratri
Day of Worship	Daily
Time of Worship	Not specific
On the Festival	All festivals
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Comptt. no. P- 449 needed plantation
Plants and its associates	*Terminalia tomentosa Diospyros melanoxylon , Tectona grandis, Tamarindus indica, Aegle marmelos, Bauhina vareigata, Ficus benghalensis, Sterculia urens, Azadrachta indica, Embilica officinalis, Lagerstroemia perviflora, Anogeissus latifolia, Pterocarpus marsupium, Syzygium cumini, Terminalia arjuna, Acassia catachu, Butea monosperma, Albizia procera, Madhuca indica, Vernonia cineria , Lantana camara*

Sacred Grove - 5

District	Chhindwara
Tehsil	Tamia
Block	Tamia
Forest Range	Tamia
Name of nearby Village	Shrijhot
Population	350 Male 200, Female 100, Children 50
Tribe composition Baiga/Gond/Panka	Gond, Bhariya
Name of Sacred Grove	Badi Chandi Mata
Water bodies	Stream, Nalla
Location of Sacred Grove	Comptt. No. P-202, Shrijhot to Shardhana Raod
Distance from District Headquarter	80 km.
Distance from Tehsil	25 km.
Distance from Near by village	3 km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	100 years
Tradition (Manyata)	NA
Name of Deity	Chandimata
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Cock, Goats, Coconut, Any offering as per people desire
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes, Shivratri
Day of Worship	Daily
Time of Worship	NA
On the Festival	Full day (two days during festival time)
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	0.5 ha. Fencing required adjoining the Sacred Grove, comptt. no. P-202.
Plants and its associates	*Terminalia tomentosa, Diospyros melanoxylon , Tectona grandis, Bauhina vareigata, Ficus benghalensis, Sterculia urens, Azadrachta indica, Embilica officinalis, Pterocarpus marsupium, Syzygium cumini, Vernonia cineria , Lantana camara*

Sacred Grove - 6

District	Chhindwara
Tehsil	Tamia
Block	Tamia
Forest Range	Tamia
Name of nearby Village	Molassesa
Population	350 Male 200, Female 100, Children 50
Tribe composition Baiga/Gond/Panka	Bhariya
Name of Sacred Grove	Choti Chandi Mata
Water bodies	Pond, Keeda Kunda
Location of Sacred Grove	Kawatola to Shrijhot Road, comptt. no. 209
Distance from District Headquarter	80 km.
Distance from Tehsil	20 km.
Distance from Near by village	0.5 km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	50 years
Tradition (Manyata)	NA
Name of Deity	Chandimata
Other Deity if any	No
Name of Guniya / Priest	NA
Type of Sacred Grove –Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Chironji(made up of sugar), Sweets
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes, Phagun Ka mella
Day of Worship	Every day, Friday
Time of Worship	NA
On the Festival	Phagun
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Comptt. No. 209, .500 ha. needed plantation for conservation
Plants and its associates	*Terminalia tomentosa, Diospyros melanoxylon , Tectona grandis, Ficus benghalensis, Azadrachta indica, Embilica officinalis, Lagerstroemia perviflora, Anogeissus latifolia, Pterocarpus marsupium, Syzygium cumini, Terminalia arjuna, Acassia catachu, Butea monosperma, Madhuca indica, Ficus infectoria, Hamidesmus indicus, Vernonia cineria , Lantana camara, Ziyiphus jujuba, Xanthium strumarium*

Sacred Grove - 7

District	Chhindwara
Tehsil	Tamia
Block	Tamia
Forest Range	Tamia
Name of nearby Village	Dundisikhar
Population	500 Male 200, Female 100, Children 50
Tribe composition Baiga/Gond/Panka	Gond, Bhariya
Name of Sacred Grove	Majar (Golaiwali Majar)
Water bodies	NA
Location of Sacred Grove	Comptt. No. P-217A
Distance from District Headquarter	75 km.
Distance from Tehsil	7 km.
Distance from Near by village	500 meters
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	75 years
Tradition (Manyata)	NA
Name of Deity	Peer Baba
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove –Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Incense stick, Chironji(made up of sugar), Rose and other flowers, Green cotton sheet
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	NA
Time of Worship	NA
On the Festival	Every day
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	An area of 0.5 ha. needed fencing
Plants and its associates	*Ficus benghalensis, Terminalia tomentosa Diospyros melanoxylon , Tectona grandis Azadrachta indica, Embilica officinalis, Lagerstroemia perviflora, Anogeissus latifolia, Butea monosperma, Vernonia cineria , Lantana camara.*

Sacred Grove - 8

District	Chhindwara
Tehsil	Tamia
Block	Tamia
Forest Range	Tamia
Name of nearby Village	Jamunia
Population	500 Male 200, Female 100, Children 50
Tribe composition Baiga/Gond/Panka	Gond, Bhariya
Name of Sacred Grove	Tultula Naina Devi (Tultula Pahad)
Water bodies	Natural water body - stream
Location of Sacred Grove	Comptt. no. PF-215
Distance from District Headquarter	75 km.
Distance from Tehsil	15 km.
Distance from Near by village	5 km.
Area Occupied by Sacred Grove	10 m^2
No. of years in existence	75 years
Tradition (Manyata)	NA
Name of Deity	Naina Devi
Other Deity if any	Durga, Hanuman and Shankarji
Name of Guniya / Priest	NA
Type of Sacred Grove –Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Flowers, Wood apple leaf, Gram, Chironji (made up of sugar), Coconut
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes Navdurga
Day of Worship	All
Time of Worship	Navdurga
On the Festival	Navmi and Navdurga
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	PF – 215
Plants and its associates	*Diospyros melanoxylon, Tectona grandis, Tamarindus indica , Aegle marmelos , Bauhina vareigata, Azadrachta indica, Embilica officinalis, Lagerstroemia perviflora, Anogeissus latifolia, Butea monosperma, Madhuca indica Vernonia cineria , Lantana camara, Ampelocissus latifolia, Achyranthes aspara, Calotropis gigantea.*

Sacred Grove - 9

District	Chhindwara
Tehsil	Tamiya
Block	Tamiya
Forest Range	Tamiya
Name of nearby Village	Jamunia
Population	8000 Male 5000, Female 2000, Children 1000
Tribe composition Baiga/Gond/Panka	Gond, Bhariya others
Name of Sacred Grove	Banjari Mai
Water bodies	No
Location of Sacred Grove	Comptt. No. P – 215
Distance from District Headquarter	75 km.
Distance from Tehsil	20 km.
Distance from Near by village	3 km.
Area Occupied by Sacred Grove	10 m^2
No. of years in existence	100 years
Tradition (Manyata)	NA
Name of Deity	Banjari Mai
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Flowers, Wood apple leaf, Gram, Chironji(made up of sugar), Coconut
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes Navratri
Day of Worship	All
Time of Worship	Navdurga
On the Festival	Navdurga and Navratri
Rules followed	No specific or strict rule followed, but common rules like entry without shoes, after taking bath and makes ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Comptt. no. P – 215 .500 ha.
Plants and its associates	*Terminalia tomentosa, Diospyros melanoxylon , Tectona grandis, Ficus benghalensis, Lagerstroemia perviflora, Anogeissus latifolia, Terminalia arjuna, Butea monosperma, Vernonia cineria, Lantana camara, Dendrophthoe falcate, Careya arborea, Cassia fistula.*

Sacred Grove - 10

District	Chhindwara
Tehsil	Jamaii
Block	Ambada
Forest Range	Jamaii
Name of nearby Village	Mahan kalari Ambada
Population	10000 Male 6000, Female 3000, Children 1000
Tribe composition Baiga/Gond/Panka	Gond with others casts
Name of Sacred Grove	Hing Laj Devi
Water bodies	Well, Pond, Stream, Hand pump
Location of Sacred Grove	Comptt. No. RF – 471 and 472 Near Mohan kalan pench kanan
Distance from District Headquarter	60 km.
Distance from Tehsil	10 km.
Distance from Near by village	4 km.
Area Occupied by Sacred Grove	200 m^2
No. of years in existence	100 years
Tradition (Manyata)	NA
Name of Deity	Hing Laj Devi
Other Deity if any	Hanuman, Sharda devi, Shankarji, Krishna
Name of Guniya / Priest	Mr. Ram Kumar Kasturey
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Flowers, Wood apple leaf, Gram, Chironji(made up of sugar), Coconut, Kalash, Deep
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	All days
Time of Worship	Morning and Evening
On the Festival	Navdurga and Navratri
Rules followed	Common rules of Temple are applied.
Steps for conservation of sanctity	Fencing / Plantations required 2.00 ha.
Plants and its associates	*Terminalia tomentosa, Tectona grandis Bauhina vareigata, Azadrachta indica, Lagerstroemia perviflora, Anogeissus latifolia, Butea monosperma, Vernonia cineria , Lantana camara, Birdelia retusa, Buchanania lanzan, Cuscuta reflexa, Dendrocalamus strictus.*

Sacred Grove - 11

District	Chhindwara
Tehsil	Jamaii
Block	Jamaii
Forest Range	Jamaii
Name of nearby Village	Pljari junnardeo
Population	8000 Male 6000, Female 3000, Children 1000
Tribe composition Baiga/Gond/Panka	Gond, Bhariya with others casts
Name of Sacred Grove	Junnardeo Mandir Comptt. no. 455
Water bodies	Well, Pond, Stream, Hand pump
Location of Sacred Grove	Comptt. no. 455
Distance from District Headquarter	70 km.
Distance from Tehsil	6 km.
Distance from Near by village	3 km.
Area Occupied by Sacred Grove	200 m^2
No. of years in existence	100 years
Tradition (Manyata)	NA
Name of Deity	Junnar Deo, Mahadeo
Other Deity if any	Shankar and Hanuman
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Flowers, Thorn apple , Ber, Fruit of Bhilwa, Coconut, Bhang, Chironji(made up of sugar) etc.
Any devotional Song / Dance/Rituals	Common Prayer
Entry Freedom-Y/N Any Specific day	Yes Mahashivratri
Day of Worship	All days
Time of Worship	Morning and Evening
On the Festival	Mahshivratri, Makarsankranti, Sawan
Rules followed	Common rules of Temple are applied.
Steps for conservation of sanctity	Water source to be conserve for drinking purpose, fencing, boarding and loading for people
Plants and its associates	*Terminalia tomentosa Diospyros melanoxylon , Azadrachta indica, Lagerstroemia perviflora, Anogeissus latifolia, Butea monosperma, Vernonia cineria , Lantana camara, Cynadon dectylon, Dalbergia paniculata, Bauhinia vahlii, Antidesma diandrum, Clematis triloba, Gardenia gummifera.*

Sacred Grove - 12

District	Chhindwara
Tehsil	Tamia
Block	Tamia
Forest Range	Tamia
Name of nearby Village	Lahgodua
Population	500 Male 200, Female 200, Children 100
Tribe composition Baiga/Gond/Panka	Gond, Bhariya
Name of Sacred Grove	Hanuman Mandir
Water bodies	Stream and Nalla
Location of Sacred Grove	Lahgodua beat near lahgodua village
Distance from District Headquarter	80 km.
Distance from Tehsil	8 km.
Distance from Near by village	3 km.
Area Occupied by Sacred Grove	10 m^2
No. of years in existence	35 years
Tradition (Manyata)	NA
Name of Deity	Hanuman
Other Deity if any	No
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Gram, Chironji(made up of sugar), Flower, Lardland, Coconut
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	All days
Time of Worship	NA
On the Festival	NA
Rules followed	Common rules of Temple are applied.
Steps for conservation of sanctity	1500 ha. area to be conserve
Plants and its associates	*Tamarindus indica , Aegle marmelos Ficus benghalensis, Mangifera indica, Syzygium cumini, Terminalia arjuna, Vernonia cineria , Lantana camara, Zizyphus jujuba, Xanthium strumarium, Vitex negundo, Tribulus terrestris.*

Sacred Grove - 13

District	Chhindwara
Tehsil	Parasia
Block	Parasia
Forest Range	Parasia
Name of nearby Village	Semartal/Titera
Population	350 Male 150, Female 100, Children 100
Tribe composition Baiga/Gond/Panka	Gond, Bhariya others casts
Name of Sacred Grove	Deo Rani Dai
Water bodies	Well, River
Location of Sacred Grove	Comptt. No. RF-687, Near Deo Rani river
Distance from District Headquarter	80 km.
Distance from Tehsil	20 km.
Distance from Near by village	2 km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	40 years
Tradition (Manyata)	NA
Name of Deity	Deo Rani Dai
Other Deity if any	Sarda devi
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Flowers, Gram, Coconut, Wood apple leaf,
Any devotional Song / Dance/Rituals	Common Prayer
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	All days
Time of Worship	NA
On the Festival	Kprayer k Purnima
Rules followed	Common rules of Temple are applied.
Steps for conservation of sanctity	1 ha. area to be conserve
Plants and its associates	*Terminalia tomentosa Tectona grandis , Bauhina vareigata, Sterculia urens, Lagerstroemia perviflora, Anogeissus latifolia, Syzygium cumini, Terminalia arjuna, Vernonia cineria , Lantana camara, Bauhinia retusa, Arundo doneax, Aristolochia indica, Cynadon dectylon, Temrix dioica.*

Sacred Grove - 14

District	Chhindwara
Tehsil	Parasia
Block	Parasia
Forest Range	Parasia
Name of nearby Village	Khirsadoh
Population	NA
Tribe composition Baiga/Gond/Panka	Gond, Bhariya others casts
Name of Sacred Grove	Sani Deo Ka Mandir
Water bodies	NA
Location of Sacred Grove	Comptt. No. RF-724 (on Parasia - Chhindwara road at 21.8 km.)
Distance from District Headquarter	22 km.
Distance from Tehsil	5 km.
Distance from Near by village	3 km.
Area Occupied by Sacred Grove	10 m^2
No. of years in existence	40 years
Tradition (Manyata)	NA
Name of Deity	Sani Deo
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Oil, Tilli, Lime, Black clothe flag, Trishul, Flowers of Ak etc.
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Tuesday and Saturday
Time of Worship	Morning and Evening
On the Festival	All days
Rules followed	Common rules of Temple are applied.
Steps for conservation of sanctity	1 ha. Area to be fenced and protected.
Plants and its associates	*Terminalia tomentosa Diospyros melanoxylon , Tectona grandis Tamarindus indica , Aegle marmelos , Lagerstroemia perviflora, Anogeissus latifolia, Pterocarpus marsupium, Syzygium cumini, Terminalia arjuna, Vernonia cineria , Lantana camara, Borhavia diffusa, Cordia dichotoma,Cynodon dactylon.*

Sacred Grove - 15

District	Chhindwara
Tehsil	Parasia
Block	Parasia
Forest Range	Parasia
Name of nearby Village	Khirsadoh
Population	NA
Tribe composition Baiga/Gond/Panka	Gond, Bhariya others casts
Name of Sacred Grove	Hamuman Mandir
Water bodies	NA
Location of Sacred Grove	Comptt. No. RF-724 (on parasia-chhindwara road at 22.2 km.)
Distance from District Headquarter	22 km.
Distance from Tehsil	5 km.
Distance from Near by village	4 km.
Area Occupied by Sacred Grove	10 m^2
No. of years in existence	24 years
Tradition (Manyata)	NA
Name of Deity	Hanuman
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Flowers, Coconut, Gram, Chironji (made up of sugar)
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	NA
Time of Worship	All time
On the Festival	NA
Rules followed	Common rules of Temple are applied.
Steps for conservation of sanctity	It is on the road side. The boundary of compartment tuched with the sacred grove. There is awareness program for villager's is need for conservation.
Plants and its associates	*Ficus religiosa, Lagerstroemia perviflora, Anogeissus latifolia, Syzygium cumini, Terminalia arjuna, Vernonia cineria , Lantana camara, Dodonea viscosa,Colebrookia oppositifolia, Smilax zeylanica, Ventilago calyculata, Zizyphus jujube.*

Sacred Grove - 16

District	Chhindwara
Tehsil	Parasia
Block	Parasia
Forest Range	Parasia
Name of nearby Village	Chandamela
Population	On the road side
Tribe composition Baiga/Gond/Panka	Gond, Bhariya & others casts
Name of Sacred Grove	Bajrangwali ka Mandir, comptt. no. RF-720
Water bodies	NA
Location of Sacred Grove	Comptt. No. RF-720 Tectona grandis and bamboo plantations.
Distance from District Headquarter	34km
Distance from Tehsil	17km.
Distance from Near by village	8km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	20 years
Tradition (Manyata)	NA
Name of Deity	Hanuman
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Gram, Chironji(made up of sugar), Sweet, flowers, Wood apple leaf etc.
Any devotional Song / Dance/Rituals	No
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Tuesday, Friday and Saturday
Time of Worship	Full day
On the Festival	NA
Rules followed	Common rules of Temple are applied.
Steps for conservation of sanctity	Tectona grandis/Bamboo plantations done by territorial division, fenced.
Plants and its associates	*Syzygium cumini, Terminalia arjuna,Butea monosperma, Madhuca indica, Vernonia cineria , Lantana camara, Ficus religiosa, Zizyphus jujube, Xanthium strumarium, Tribulus terrestris, Thysanolaena maxima, Saceharum spontaneum, Madhuca indica.*

Sacred Grove - 17

District	Chhindwara
Tehsil	Parasia
Block	Parasia
Forest Range	Parasia
Name of nearby Village	Chanda meta, Ganjdeh, Gughri
Population	1200, Male – 560, Female – 400, Children - 240
Tribe composition Baiga/Gond/Panka	Baiga, Gond, Bhariya & others casts
Name of Sacred Grove	Kachnar wale Bajrangwali
Water bodies	Nalla
Location of Sacred Grove	Comptt. No. RF-721
Distance from District Headquarter	28 km.
Distance from Tehsil	5 km.
Distance from Near by village	3 km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	15 years
Tradition (Manyata)	NA
Name of Deity	Bajrangwali
Other Deity if any	NA
Name of Guniya / Priest	Mr. Chetu Ram Baba
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Gram, Chironji (made up of sugar), Flowers, Incense stick, Coconut etc.
Any devotional Song / Dance/Rituals	No
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Tuesday and Saturday
Time of Worship	Not specific
On the Festival	Hanuman jayanti
Rules followed	No specific or strict rule followed, but common rules like entry without shoes, after taking bath and makes ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Fencing, Plantation, Water resources required. The stone stachu is increasing slowly in size 2½ to 3 feets.
Plants and its associates	*Lagerstroemia perviflora, Lantana camara, Saceharum spontaneum*

Sacred Grove - 18

District	Chhindwara
Tehsil	Parasia
Block	Parasia
Forest Range	Parasia
Name of nearby Village	Khanna
Population	800, Male 300, Female 350, Children 250
Tribe composition Baiga/Gond/Panka	Baiga, Gond, Bhariya & others casts
Name of Sacred Grove	Patheraii ka Ram Mandir
Water bodies	Hand Pump and Nalla
Location of Sacred Grove	Comptt. No. RF-722
Distance from District Headquarter	35 km.
Distance from Tehsil	10 km.
Distance from Near by village	3m.
Area Occupied by Sacred Grove	5 m^2
No. of years in existence	40 years
Tradition (Manyata)	NA
Name of Deity	Ram Laxman and Sita
Other Deity if any	Durga and Hanuman
Name of Guniya / Priest	Mr. Narayan Prasad Dubey
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Gram, Chironji(made up of sugar), Flowers, Incense stick, Coconut, Flowers etc.
Any devotional Song / Dance/Rituals	No
Entry Freedom-Y/N Any Specific day	Yes Diwali and Dashehra
Day of Worship	Daily
Time of Worship	Morning and Evening
On the Festival	Diwali and Dashehra
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Already Fenced
Plants and its associates	*Tectona grandis, Lagerstroemia perviflora, Anogeissus latifolia, Syzygium cumini, Terminalia arjuna, Vernonia cineria , Lantana camara, Nyctanthes arbortristis, Themeda guadrivalvis, Ventilago calyculata, Zizyphus jujube, Vitex negundo,Cynodon dactylon, Soymida febrifuga*

Sacred Grove - 19

District	Chhindwara
Tehsil	Parasia
Block	Parasia
Forest Range	Parasia
Name of nearby Village	WCL Kalari Parasia
Population	Under WCL Kalari - No population
Tribe composition Baiga/Gond/Panka	Baiga, Gond, Bhariya & others casts
Name of Sacred Grove	Durga Manir
Water bodies	NA
Location of Sacred Grove	Comptt. No. RF-720, WCL Kalari
Distance from District Headquarter	30 km.
Distance from Tehsil	10 km.
Distance from Near by village	1.5km.
Area Occupied by Sacred Grove	$50m^2$
No. of years in existence	100 years
Tradition (Manyata)	No
Name of Deity	Durga
Other Deity if any	No
Name of Guniya / Priest	Mr. Parasram Rama
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Mala, Flowers, Incense stick etc.
Any devotional Song / Dance/Rituals	Common Durga Prayer
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Tuesday and Saturday
Time of Worship	Morening and evening
On the Festival	Navratri
Rules followed	No specific or strict rule followed, but common rules like entry without shoes, after taking bath and makes ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	The Sacred Grove is itself under forested area and already protected by WCL by fencing and no need of conservation
Plants and its associates	*Terminalia tomentosa Diospyros melanoxylon , Tectona grandis,Lagerstroemia perviflora, Anogeissus latifolia, Syzygium cumini, Terminalia arjuna, Acassia catachu Butea monosperma, Madhuca indica, Lantana camara, Thespesia lampas,Cynodon dactylon.*

Sacred Grove - 20

District	Chhindwara
Tehsil	Parasia
Block	Parasia
Forest Range	Parasia
Name of nearby Village	WCL Kalari Parasia
Population	Under WCL Kalari - No population
Tribe composition Baiga/Gond/Panka	Baiga, Gond, Bhariya & others casts
Name of Sacred Grove	Saiyababa ki Majar
Water bodies	NA
Location of Sacred Grove	Comptt. No. RF-720, WCL Kalari
Distance from District Headquarter	30 km.
Distance from Tehsil	10 km.
Distance from Near by village	2km.
Area Occupied by Sacred Grove	$50m^2$
No. of years in existence	50 years
Tradition (Manyata)	No
Name of Deity	Durga
Other Deity if any	No
Name of Guniya / Priest	Mr. Parasram Rama
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Mala, Flowers, Incense stick etc.
Any devotional Song / Dance/Rituals	Common Durga Prayer
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Tuesday and Saturday
Time of Worship	Morning and evening
On the Festival	every Friday
Rules followed	No specific or strict rule followed, but common rules like entry without shoes, after taking bath and makes ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	The Sacred Grove is itself under forested area and already protected by WCL by fencing.
Plants and its associates	*Aegle marmelos , Bauhina vareigata, Azadrachta indica, Embilica officinalis, Lagerstroemia perviflora Anogeissus latifolia, Syzygium cumini, Madhuca indica, Lantana camara, Scheichera oleosa, Saceharum spontaneum, Randia dumetorum, Pogostemon benghalensis, Thysanolaena maxima.*

Sacred Grove - 21

District	Chhindwara
Tehsil	Pandurna
Block	Pandurna
Forest Range	Pandurna
Name of nearby Village	Chatwa
Population	1450 , Male 800, Female 400, Children 250
Tribe composition Baiga/Gond/Panka	Gond, Katiya, Pawar, Mang, Chamar
Name of Sacred Grove	Shiv Mandir
Water bodies	Well and Bore Well
Location of Sacred Grove	Near 1.5 km. Comptt. no. P-2051
Distance from District Headquarter	20 km.
Distance from Tehsil	17 km.
Distance from Near by village	.5 km.
Area Occupied by Sacred Grove	100 m^2
No. of years in existence	20 years
Tradition (Manyata)	NA
Name of Deity	Shiv Sankar
Other Deity if any	Shiv, Parvati, Ganesh, Kprayer k
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Trishul, Incense stick, Incense, Coconut, Gram, Chironji(made up of sugar) etc.
Any devotional Song / Dance/Rituals	NA Common Prayer has been performed daily
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Every day
Time of Worship	Morning and Evening
On the Festival	Shivratri – 2 days, Nagpanchami – 1 day
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	The adjoining area about 3 ha. needed plantation and fencing.
Plants and its associates	*Tectona grandis, Annona squamata, Butea monosperma, Azadrachta indica, Lantana camara, , Dandrocalamus strictus,Grewia rothii, Milletia auriculata, Mangifera indica, Kydia calycina.*

Sacred Grove - 22

District	Chhindwara
Tehsil	Pandurna
Block	Pandurna
Forest Range	Pandurna
Name of nearby Village	Bhuli
Population	1200, Male 600, Female 500, Children 100
Tribe composition Baiga/Gond/Panka	Pawar
Name of Sacred Grove	Bhuli Mandir
Water bodies	Well, River
Location of Sacred Grove	Comptt. no. 2017 Bhuli Beat
Distance from District Headquarter	30 km.
Distance from Tehsil	11 km.
Distance from Near by village	2 km.
Area Occupied by Sacred Grove	500 m^2
No. of years in existence	50 years
Tradition (Manyata)	NA
Name of Deity	Shiva
Other Deity if any	Durga ma, Dadaji
Name of Guniya / Priest	Dornaji Maharaj
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Incense, Incense stick, Coconut, Gram, Chironji (made up of sugar) etc.
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Every Day
Time of Worship	Morning and Evening
On the Festival	Mahashivratri (Panchami)
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Forest of *Tectona grandis* dominating trees with other species. Plantation needed surrounding area.
Plants and its associates	*Tectona grandis, Lagerstroemia perviflora Clorlxylon sweitenia, Butea monosperma Cynodon dactylon, Desmodium trifolium, Casia tora,Lantana camara, Indigofera pulchella, Hymenodictyon excelsum, Holarrhena antidysentrica, Erianthus munja, Dodonea viscosa.*

Sacred Grove - 23

District	Chhindwara
Tehsil	Pandurna
Block	Pandurna
Forest Range	Pandurna
Name of nearby Village	Mehrakhopa (Nagmar)
Population	600, Male 250, Female 250, Children 100
Tribe composition Baiga/Gond/Panka	Gond, Pawar, Mahar, Modi, Rajput
Name of Sacred Grove	Dadaji Maharaj Ka Mandir
Water bodies	Handpump
Location of Sacred Grove	Comptt. No. 1779
Distance from District Headquarter	30 km.
Distance from Tehsil	11 km.
Distance from Near by village	4 km.
Area Occupied by Sacred Grove	500 m^2
No. of years in existence	100 years
Tradition (Manyata)	NA
Name of Deity	Dadaji Maharaj
Other Deity if any	Bajrangwali, Dhangori Baba
Name of Guniya / Priest	Jhola Ram Dansiya Uikey
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Wood apple leaf, Coconut, Incense stick etc.
Any devotional Song / Dance/Rituals	Daily Normal Puja
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Daily
Time of Worship	It is not specific but every day as per people's desire they come and worship
On the Festival	Rishi Panchami
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	An area about 1 ha. adjoining to Sacred Grove needed plantation and fencing.
Plants and its associates	*Tectona grandis, Syzygium cumini, Gmelina arborea, Oscimum sanctum, Butea monosperma Buchanania lanzan, Ougenia oogenensis, Eragrotis tenella, Woodfordia fruiticosa, Xanthium strumarium, Syzygium heyneanum, Saceharum spontaneum, Dendrocalamus strictus, Desmodium pulchellum, Ougenia oojeinensis, Randia dumetorum.*

Sacred Grove - 24

District	Chhindwara
Tehsil	Sonser
Block	Sonser
Forest Range	Ambada
Name of nearby Village	Ramudhana
Population	778, Male 400, Female 200, Children 178
Tribe composition Baiga/Gond/Panka	Gond, Mawari, Korku, Harijan, Sen
Name of Sacred Grove	Poller Deo
Water bodies	River
Location of Sacred Grove	Comptt. No. RF-1882
Distance from District Headquarter	30 km.
Distance from Tehsil	24 km.
Distance from Near by village	5 km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	50 years
Tradition (Manyata)	NA
Name of Deity	Pollar Deo
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut
Any devotional Song / Dance/Rituals	Common
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Not specific
Time of Worship	NA
On the Festival	Shivratri
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	The adjoining area of Sacred Grove is needed plantation and fencing.
Plants and its associates	*Tectona grandis, Calotropis procera, Syzygium cumini, Gmelina arborea, Oscimum sanctum, Butea monosperma, Buchanania lanzan, Ougenia oogeinensis, Pennisetum hohenackeri, Pogostemon benghalensis, Tamarindus indica, Nyctanthes arbortristis, Desmodium pulchllum, Flacourtia indica, Grewia rothii.*

Sacred Grove - 25

District	Chhindwara
Tehsil	Sonser
Block	Sonser
Forest Range	Ambada
Name of nearby Village	Ramudhana
Population	778, Male 400, Female 200, Children 178
Tribe composition Baiga/Gond/Panka	Gond, Mawari, Korku, Harijan, Sen
Name of Sacred Grove	Bheemsen Devta
Water bodies	No
Location of Sacred Grove	Comptt. No. 1881 Near village Tamarindus indica tree
Distance from District Headquarter	28 km.
Distance from Tehsil	12 km.
Distance from Near by village	2 km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	50 years
Tradition (Manyata)	According to villagers during the illness of family member they come and worship.
Name of Deity	Bheemsen Devta
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Murga
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Chetra-Bhisakh
Time of Worship	Not specific
On the Festival	Hanuman jayanti
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Cutting of trees is prohibited
Plants and its associates	*Tectona grandis, Azadrachta indica, Syzygium cumini, Oscimum sanctum, Butea monosperma, Buchanania lanzan, Ougenia oogeinensis, Vitex negundo, Ventilago calyculata, Tribulus terrestris, Terminalia tomentosa, Solanum nigrum.*

Sacred Grove - 26

District	Chhindwara
Tehsil	Sonser
Block	Sonser
Forest Range	Ambada
Name of nearby Village	On road side
Population	NA
Tribe composition Baiga/Gond/Panka	Scheduled casts
Name of Sacred Grove	Lamba Deo
Water bodies	No
Location of Sacred Grove	Lamba Deo comptt. No. 1904
Distance from District Headquarter	60 km.
Distance from Tehsil	27 km.
Distance from Near by village	12 km.
Area Occupied by Sacred Grove	20 m^2
No. of years in existence	50 years
Tradition (Manyata)	After the marriage villagers come and worship for their happy marriage life.
Name of Deity	Bajrangwali
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Chironji (made up of sugar), Incense stick, Sindor etc.
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Tuesday and Saturday
Time of Worship	Morning and day time
On the Festival	Hanuman Jyanti
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	NA
Plants and its associates	*Azadrachta indica, Calotropis procera, Syzygium cumini, Gmelina arborea, Oscimum sanctum, Butea monosperma, Buchanania lanzan, Ougenia oogeinensis, Solanum nigrum.*

Sacred Grove - 27

District	Chhindwara
Tehsil	Sonser
Block	Sonser
Forest Range	Sonser
Name of nearby Village	Nandewani
Population	3200, Male 1200, Female 1300, Children 700
Tribe composition Baiga/Gond/Panka	Gond, Sahu, Pawar, Mehra, Lohar, Chamar
Name of Sacred Grove	Bagdeo/Banjari
Water bodies	Hand Pump
Location of Sacred Grove	Comptt. no. 1922 Bandarchua
Distance from District Headquarter	50 km.
Distance from Tehsil	16 km.
Distance from Near by village	2 km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	50 years
Tradition (Manyata)	NA
Name of Deity	Baghdeo/Banjari mata
Other Deity if any	Sankarji, Saibaba
Name of Guniya / Priest	Mr. Narayan Baba (2 years)
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Incense stick, Coconut, Chironji(made up of sugar) (Made up of sugar) , Flowers, Wood apple leaf etc.
Any devotional Song / Dance/Rituals	Normal Prayer Daily
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Every day
Time of Worship	7:30 am. and 7:30 pm.
On the Festival	Shivratri and Navratri
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Plantation and fencing needed to cover adjoining area of the sacred grove.
Plants and its associates	*Tectona grandis*, *Butea monosperma*, *Aegle marmelos* , *Terminalia tomentosa*, *Ficus relegiosa*, *Mitragyna parviflora*, *Cassia fistula Azadrachta indica*, *Derris scandens*, *Dendrocalamus strictus*, *Cassia tora.*

Sacred Grove - 28

District	Chhindwara
Tehsil	Pandurna
Block	Pandurna
Forest Range	Sonser
Name of nearby Village	Sillewani
Population	450, Male 150, Female 100, Children 200
Tribe composition Baiga/Gond/Panka	Gond, Pawar, Chamar, Lohar, Mehra
Name of Sacred Grove	Dev Khalyan (Badadeo)
Water bodies	No
Location of Sacred Grove	Comptt. No. 1921
Distance from District Headquarter	56 km.
Distance from Tehsil	18 km.
Distance from Near by village	1 km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	50 years
Tradition (Manyata)	NA
Name of Deity	Bada deo
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective but specific t salamey gotra
Kind of Offerings dedicated	Incense Stick, Coconut, Chironji(Made Up Of Sugar) (Made Up Of Sugar) , Flowers etc.
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Villagers come and worship in the month of January and February before holi.After the marriage, it is compulsory for couple worship here for happy life.
Time of Worship	Any time
On the Festival	NA
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Sacred grove situated in the National Park area. Awareness program is needed among the villagers.
Plants and its associates	*Anogeissus latifolia, Tectona grandis Lagerstroemia parviflora, Butea monosperma, Buchanania lanzan Embilica officinalis, Butea monosperma, Cuscuta reflexa, Cynodon dactylon, Apluda mutica, Briedelia retusa.*

Sacred Grove - 29

District	Chhindwara
Tehsil	Sonser
Block	Sonser
Forest Range	Sonser
Name of nearby Village	Kuddam/Kajalpani
Population	1000, Male 400, Female 500, Children 100
Tribe composition Baiga/Gond/Panka	Gond, Kunbi, Harijan, Momdans
Name of Sacred Grove	Chipad ghordi
Water bodies	NA
Location of Sacred Grove	Comptt. No. P-1952
Distance from District Headquarter	22 km.
Distance from Tehsil	5 km.
Distance from Near by village	1 km.
Area Occupied by Sacred Grove	20 m^2
No. of years in existence	50 years
Tradition (Manyata)	NA
Name of Deity	Sankar
Other Deity if any	Bajrangbali
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Incense Stick, Coconut, Chironji(Made Up Of Sugar) (Made Up Of Sugar) , Flowers etc.
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Every day But Monday specially
Time of Worship	Mornning and Day time
On the Festival	Shivratri and Nagpanchami
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Plantation needed for conservation
Plants and its associates	*Anogeissus latifolia Lagerstroemia perviflora, Madhuca indica, Terminalia tomentosa, Diospyros melanoxylon , Soymida febrifuga, Butea monosperma, Aegle marmelos, Asparagus racemosus, Soymida febrifuga.*

Sacred Grove - 30

District	Chhindwara
Tehsil	Sonser
Block	Sonser
Forest Range	Sonser
Name of nearby Village	Amla
Population	600, Male 300, Female 250, Children 50
Tribe composition Baiga/Gond/Panka	Gond, Kumbi, Merey
Name of Sacred Grove	Banjari Mata
Water bodies	Stream, Hand Pump
Location of Sacred Grove	Comptt. No. P-1741 on the road kutama 3 km.
Distance from District Headquarter	30 km.
Distance from Tehsil	8 km.
Distance from Near by village	2 km.
Area Occupied by Sacred Grove	3 m^2
No. of years in existence	80 years
Tradition (Manyata)	NA
Name of Deity	Banjari and Shiv
Other Deity if any	Laxmi and Bajrangbali
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Incense stick, Incense, Gram, Chironji (made up of sugar), Wood apple leaf
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Every day
Time of Worship	Morning and day time
On the Festival	Shivratri, Navratri and Nagpanchami
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	It is on the road side.Biotic pressure observed around the sacred grove. Fencing is needed.
Plants and its associates	*Tectona grandis, Buchanania lanzan, Embilica officinalis, Bhima, Terminalia chebula, Terminalia belerica, Aegle marmelos, Butea monosperma Butea monosperma Aegle marmelos, Annona squamata, Terminalia tomentosa, Soymida febrifuga*

Sacred Grove - 31

District	Chhindwara
Tehsil	Mokhed
Block	Sonser
Forest Range	Silewani
Name of nearby Village	Amla
Population	600, Male 300, Female 200, Children 100
Tribe composition Baiga/Gond/Panka	Gond
Name of Sacred Grove	Taj wale baba
Water bodies	No.
Location of Sacred Grove	Comptt. No. 1716
Distance from District Headquarter	35 km.
Distance from Tehsil	13 km.
Distance from Near by village	3 km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	90 years
Tradition (Manyata)	NA
Name of Deity	Taj Bale Baba
Other Deity if any	Taj baba
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Incense stick, Chadar, Lobhan, Incense
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Every Day but Friday is sp[ecial for preyer
Time of Worship	Morning time
On the Festival	NA
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Cutting of trees prohibited
Plants and its associates	*Tectona grandis, Buchanania lanzan, Embilica officinalis, Bhima, Terminalia chebula, Terminalia belerica, Butea monosperma Butea monosperma Annona squamata, Terminalia tomentosa, Cassia tora, Eclipta prostrate, Euphorbia neriifolia, Exora arborea, Grewia tiliaefolia.*

Sacred Grove - 32

District	Chhindwara
Tehsil	Bichhua
Block	Bichhua
Forest Range	Bichhua
Name of nearby Village	Samargoh
Population	600, Male 200, Female 300, Children 100
Tribe composition Baiga/Gond/Panka	Gond, Pawar, Bodha, Sawji
Name of Sacred Grove	Sankar Van
Water bodies	Well, Stream, Hand Pump
Location of Sacred Grove	Comptt. No. P-1505
Distance from District Headquarter	28 km.
Distance from Tehsil	14 km.
Distance from Near by village	0.5 km.
Area Occupied by Sacred Grove	500 m^2
No. of years in existence	80 years
Tradition (Manyata)	NA
Name of Deity	Sankar Van
Other Deity if any	Hanumanji
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Incense stick, Incense, Gram, Chironji (made up of sugar), Flowers etc.
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Every Day
Time of Worship	Morning and Evening
On the Festival	Mahashivratri
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Fancing required
Plants and its associates	*Tectona grandis, Terminalia tomentosa Madhuca indica, Butea monosperma, Butea monosperma, Aegle marmelos , Lagerstroemia perviflora, Datura alba, Solanum nigrum, Achyranthes aspera, Terminalia arjuna, Adina cordifolia, Mangifera indica, Azadrachta indica. Ficus relegiosa.*

Sacred Grove - 33

District	Chhindwara
Tehsil	Bichhua
Block	Bichhua
Forest Range	Bichhua
Name of nearby Village	Singardeep
Population	450, Male 200, Female 150, Children 100
Tribe composition Baiga/Gond/Panka	Gond, Katiya, Mehra, Chamar, Raghuwanshi
Name of Sacred Grove	Ambamaii
Water bodies	Stream, Hand Pump
Location of Sacred Grove	Comptt. No. RF-1501
Distance from District Headquarter	28 km.
Distance from Tehsil	14 km.
Distance from Near by village	1 km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	10 years
Tradition (Manyata)	NA
Name of Deity	Ambamaii
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Incense stick, Incense, Flowers etc.
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Friday
Time of Worship	Weekly
On the Festival	Navratri
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	The Sacred Grove is sitiuated in Pench National Park. Development activity must be stopped near by sacre grove.fencing is required.
Plants and its associates	*Madhuca indica, Butea monosperma, Aegle marmelos , Lagerstroemia parviflora, Terminalia arjuna, Ficus relegiosa, Gardenia resinifera, Grewia tiliaefolia, Helieteres isora, Heteropogon contortus, Ichnocarpus frutescens, Jatropha curcas, Ricinus communis.*

Sacred Grove - 34

District	Chhindwara
Tehsil	Parasia
Block	Parasia
Forest Range	Parasia
Name of nearby Village	Pagara
Population	1500, Male 800, Female 300, Children 400
Tribe composition Baiga/Gond/Panka	Baniya, Sahu, Chamar, Basor
Name of Sacred Grove	Sidhbaba Ka Mandir Comptt. no. P-682
Water bodies	No
Location of Sacred Grove	Comptt. No. P-682 near village pagara
Distance from District Headquarter	29 km.
Distance from Tehsil	17 km.
Distance from Near by village	6 km.
Area Occupied by Sacred Grove	100 m^2
No. of years in existence	100 years
Tradition (Manyata)	NA
Name of Deity	Sidha Baba
Other Deity if any	Lord Hanuman
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Incense stick
Any devotional Song / Dance/Rituals	Normal Routine puja
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Holi
Time of Worship	Weekly
On the Festival	Holi and Deepawali
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Plantation needed
Plants and its associates	*Tectona grandis, Lagerstroemia perviflora Anogeissus latifolia, Schleichera oleosa Azadrachta indica, Madhuca indica, Butea monosperma, Bauhinia vahlii, Latana camara, Semecarpus anacardium, Tamarix dioica, Zizyphus jujube, Thespesia lampas.*

Sacred Grove - 35

District	Chhindwara
Tehsil	Parasia
Block	Parasia
Forest Range	Parasia
Name of nearby Village	Buddi
Population	250, Male 100, Female 100, Children 50
Tribe composition Baiga/Gond/Panka	Gond, Katiya, Sahu
Name of Sacred Grove	Mata Dai
Water bodies	No
Location of Sacred Grove	Comptt. No. P-688 near village Buddi
Distance from District Headquarter	29 km.
Distance from Tehsil	14 km.
Distance from Near by village	2 km.
Area Occupied by Sacred Grove	100 m^2
No. of years in existence	80 years
Tradition (Manyata)	NA
Name of Deity	Mata Mai
Other Deity if any	Nil
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Got/Hen
Any devotional Song / Dance/Rituals	Normal
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Navratri
Time of Worship	Occasional
On the Festival	Navratri
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Plantation needed
Plants and its associates	*Tectona grandis, Butea monosperma, Terminalia tomentosa, Madhuca indica, Soymida febrifuga. Anogeissus latifolia, Legerstromia perviflora, Aegle marmelosl, Ventilago calyculata, Tribulus terrestris, Woodfordia fruiticosa, Vitex negundo, Thysanolaena maxima, Mangifera indica.*

Sacred Grove - 36

District	Chhindwara
Tehsil	Amarwada
Block	Harrai
Forest Range	Harrai
Name of nearby Village	Nandna
Population	260, Male 100, Female 100, Children 60
Tribe composition Baiga/Gond/Panka	Gond, Harijan, Yadav
Name of Sacred Grove	Bausia
Water bodies	No
Location of Sacred Grove	Comptt. No. 1107
Distance from District Headquarter	48 km.
Distance from Tehsil	6 km.
Distance from Near by village	2.0 km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	50 years
Tradition (Manyata)	NA
Name of Deity	Bausia
Other Deity if any	*NA*
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Incense stick, Coconut, Gram, Chironji(made up of sugar) (Made up of sugar) , Got, Hen
Any devotional Song / Dance/Rituals	Normal Routine puja
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Monday
Time of Worship	Occasional
On the Festival	Purnima
Rules followed	A person must offer what he commit in front of Deva. Not any specific and strict roles followed. But Common rules like entry without shoes, after taking bath and neat and clean conditions have been followed.
Steps for conservation of sanctity	Adjoing area needed conservation from grazing and illicit felling.
Plants and its associates	*Tectona grandis, Lagerstroemia perviflora, Anogeissus latifolia, Buchanania lanzan, Pterocarpus marsupium, Solanum nigrum, Ventilago calyculata, Vitex negundo, Xanthium strumarium, Scheichera oleosa.*

Sacred Grove - 37

District	Chhindwara
Tehsil	Amarwada
Block	Harrai
Forest Range	Harrai
Name of nearby Village	Kokam Pipariya
Population	200, Male 80, Female 100, Children 20
Tribe composition Baiga/Gond/Panka	Gond, Yadav, Daharia
Name of Sacred Grove	Mata Mandir Kokampat
Water bodies	Well
Location of Sacred Grove	Comptt. No. 1113
Distance from District Headquarter	49 km.
Distance from Tehsil	5 km.
Distance from Near by village	2 km.
Area Occupied by Sacred Grove	500 m^2
No. of years in existence	100 years
Tradition (Manyata)	NA
Name of Deity	Vashrav devi
Other Deity if any	Dadaji Dhuniwale
Name of Guniya / Priest	Mr. Sani Ram Hinotey, Badagoh, Kudna, Budhman, Shukhdas
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Incense stick, Incense, Coconut, Gram, Chironji (made up of sugar), Wood apple leaf
Any devotional Song / Dance/Rituals	Normal Puja
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Monday
Time of Worship	Morning and Evening
On the Festival	Chaitra and Kuwar
Rules followed	Offering of Kalash and Jaware in Chaitra is must every year
Steps for conservation of sanctity	Hilltop and adjoining area has mixed forest. It needed protection from grazing.
Plants and its associates	*Tectona grandis, Lagerstroemia perviflora, Anogeissus latifolia, Buchanania lanzan, Embilica officinalis, Salhe, Diospyros melanoxylon, Arundo donax, Madhuca indica, Mangifera indica, Ocimum sanctum, Ricinus communis, Syzium cumini, Vernonia cinerea, Xanthium strumarium.*

Sacred Grove - 38

District	Chhindwara
Tehsil	Amarwada
Block	Amarwada
Forest Range	Amarwada
Name of nearby Village	Saliwada
Population	1400 Male 600, Female 500, Children 300
Tribe composition Baiga/Gond/Panka	Lodhi, Yadav, Adewasi, Mehra, Katia
Name of Sacred Grove	Mahairwali Mata
Water bodies	Pond
Location of Sacred Grove	Near comptt. 1204
Distance from District Headquarter	52 km.
Distance from Tehsil	8 km.
Distance from Near by village	1 km.
Area Occupied by Sacred Grove	10 m^2
No. of years in existence	50 years
Tradition (Manyata)	Entry without shoe, Wishes are fulfilled
Name of Deity	Sharda mata
Other Deity if any	Nill
Name of Guniya / Priest	Not applicable
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Flowersmala, Coconut, Parched rice, Flowers, Molasses, Panjeeri (power of wheat with suger fried in ghee)
Any devotional Song / Dance/Rituals	Ramdhun
Entry Freedom -Y/N Any Specific day	Yes
Day of Worship	Daily
Time of Worship	Chayt Navratri
On the Festival	Navratri
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Plantation needed
Plants and its associates	*Butea monosperma, Aegle marmelos , Nyctanthus arbortristis, Ougenia oogeinensis Lagerstroemia perviflora, Ficus relegiosa, Bacopa moneri, Antidesma diandrum, Bauhinia malabarica, Borhavia diffusa, Butea parviflora, Annona squamosa, Adhatoda vasica, Cymbopogon martini, Diospyros melanoxylon, Gardenia gummifera, Hymenodictyon excelsum.*

Sacred Grove - 39

District	Chhindwara
Tehsil	Amarwada
Block	Terminalia chebuParched rice
Forest Range	Amarwada
Name of nearby Village	Baratmari
Population	723 Male 350, Female 250, Children 123
Tribe composition Baiga/Gond/Panka	Lodhi, Gond, Adiwasi, Mehra, Katia
Name of Sacred Grove	Barat Gadh
Water bodies	Stream, Natural water resource
Location of Sacred Grove	Near village Baramati
Distance from District Headquarter	62 km.
Distance from Tehsil	26km.
Distance from Near by village	1 km.
Area Occupied by Sacred Grove	100 m^2
No. of years in existence	25 years
Tradition (Manyata)	Wishes are fulfilled
Name of Deity	Sidhbaba
Other Deity if any	Not applicable
Name of Guniya / Priest	Shri Shri 108 Shri Dhiraj Giri Mahraj
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Ganja, Trishul, Jhanda
Any devotional Song / Dance/Rituals	Maiya amrakantakwali tu hai badi bholi bhali tera gun gate sadhu baja baja tali.
Entry Freedom-Y/N Any Specific day	Sunday
Day of Worship	Daily
Time of Worship	4:00 am and 8:00 pm
On the Festival	Mahashivratri
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Plantation needed
Plants and its associates	*Mangifera indica, Ziziphus jujube, Butea monosperma, Terminalia tomentosa, Tectona grandis , Tamarindus indica Azadrachta indica, Annona squamata, Mitragyna parviflora Pterocarpus marsupium, Diospyros melanoxylon, Buchanania lanzan, Gokhru, Lantana camara, Gazarghas Safed Calotropis procera, Bacopa moneri, Solanum nigrum, Scheichera oleosa, Madhuca indica, Litsea gluinosa, Grewia hirsute, Eragrostis interrupta, Clematis triloba.*

Sacred Grove - 40

District	Chhindwara
Tehsil	Amarwada
Block	Amarwada
Forest Range	Amarwada
Name of nearby Village	Baratmari
Population	740 Male 300, Female 250, Children 140
Tribe composition Baiga/Gond/Panka	Gond, Lodhi, Yadav, Mehra
Name of Sacred Grove	Dulha Deo
Water bodies	N.A.
Location of Sacred Grove	Near village Barumati from Amarwada to Narsinghpur road.
Distance from District Headquarter	70 km.
Distance from Tehsil	30 km.
Distance from Near by village	Baratmari 0 km.
Area Occupied by Sacred Grove	30 m^2
No. of years in existence	70 years
Tradition (Manyata)	All Wishes are fulfilled
Name of Deity	Dhula Deo
Other Deity if any	NA
Name of Guniya / Priest	Omkar Prasad Yadav
Type of Sacred Grove - Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Murga, Bakra, Coconut, Mithai, hen Incense stick,chrionji
Any devotional Song / Dance/Rituals	Ramayan, Bhajans, Keertan
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Saturday
Time of Worship	Not specific
On the Festival	Dewali, Mudai, Raksha Bandhan, Kajaliya ka Mela
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	if drunk not allowed
Plants and its associates	Mangifera indica, Ficus benghalensis, *Heteropogon contortus*, Azadrachta indica, Michelia doltsopa, Tamarindus indica, *Dalbergia poniculata*, Lantana camara, Calotropis procera, *Dendrocalamus strictus, Xanthium strumarium, Ficus religiosa*,

Sacred Grove - 41

District	Chhindwara
Tehsil	Pandurana
Block	Pandurana
Forest Range	Morghat
Name of nearby Village	Danora
Population	1200 Male 600, Female 400, Children 200
Tribe composition Baiga/Gond/Panka	Gond
Name of Sacred Grove	Kuwari Bheem Sen Baba
Water bodies	Nill
Location of Sacred Grove	34 km. from Morghat Comptt. No. 1375
Distance from District Headquarter	108 km.
Distance from Tehsil	34 km.
Distance from Near by village	2 km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	50 years
Tradition (Manyata)	Spiritual planco only
Name of Deity	Bheem Sen Baba
Other Deity if any	Siva
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Common
Kind of Offerings dedicated	Coconut, Incense stick etc.
Any devotional Song / Dance/Rituals	Siva Dhun
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	NA
Time of Worship	NA
On the Festival	Shivratri
Rules followed	Not cutting of tree in the adjoining area. No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Self conserved
Plants and its associates	*Butea monosperma, Madhuca indica, Aegle marmelos , Tectona grandis , Diospyros melanoxylon, Annona squamata, Cassia tora, Cynodon dactylon, Celastrus paniculata, Careya arborea, Dioscorea daanona, Xanthium strumarium, Zizyphus jujube, Vitex negundo, Vernonia cinerea, Terminalia chebula, Solanum nigrum.*

Sacred Grove - 42

District	Chhindwara
Tehsil	Pandurana
Block	Pandurana
Forest Range	Lava Ghughara
Name of nearby Village	Narayanghat
Population	750 Male 300, Female 250, Children 150
Tribe composition Baiga/Gond/Panka	Gond, Panka, Baiga
Name of Sacred Grove	Chukighat
Water bodies	Pench River
Location of Sacred Grove	34 km. from Morghat Comptt. No. 1375
Distance from District Headquarter	108 km.
Distance from Tehsil	34 km.
Distance from Near by village	0.5 km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	22 years
Tradition (Manyata)	NA
Name of Deity	Sharda devi
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Trishula, Coconut, Incense stick, Ata ki Kheer
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Monday and Friday
Time of Worship	Mahashivratri, Makar Sakrantri
On the Festival	Mahashivratri
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	NA
Plants and its associates	*Terminalia arjuna, Tectona grandis , Aegle marmelos , Butea monosperma, Tamarindus indica, Scheichera oleosa, Xanthium strumarium, Celastrus paniculata, Careya arborea, Dioscorea daanona, Zizyphus jujube, Vitex negundo, Vernonia cinerea, Terminalia chebula, Solanum nigrum.*

Sacred Grove - 43

District	Chhindwara
Tehsil	Pandurana
Block	Pandurana
Forest Range	Lava Ghughara
Name of nearby Village	Karthi
Population	900 Male 435, Female 365, Children 100
Tribe composition Baiga/Gond/Panka	Adiwashi Village
Name of Sacred Grove	Jhikku Dhana Baba Darbar
Water bodies	Pump 1
Location of Sacred Grove	24 km. from Pandurana P-1774
Distance from District Headquarter	94 km.
Distance from Tehsil	24 km.
Distance from Near by village	1 km.
Area Occupied by Sacred Grove	300 m^2
No. of years in existence	50 years
Tradition (Manyata)	Typical body angery due to accident can normalize by the prayer in this place.
Name of Deity	Kabeer Das
Other Deity if any	NA
Name of Guniya / Priest	Shayam Das
Type of Sacred Grove – Collective (Common)/Individual (Family)	Individual
Kind of Offerings dedicated	Coconut, Chiraunji, Incense stick, Flower and Fruits.
Any devotional Song / Dance/Rituals	Kabeeramrat
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	NA
Time of Worship	6:00 to 7:00 am. 7:00 to 8:00 pm.
On the Festival	Makar Sankranti
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Self conservation
Plants and its associates	*Ficus relegiosa, Syzygium cumini, Psidium guajaba, Dandrocalamus strictus, Mangifera indica, Euphorbia neriifolia, Ficus glomerata, Eragrotis tenella, Cynodon dactylon, Carissa opaca, Calotropis gigantean, Themeda guadrivalvis, Eclipta prostrate, Dodonea viscose.*

Sacred Grove - 44

District	Chhindwara
Tehsil	Amarwada
Block	Amarwada
Forest Range	Amarwada
Name of nearby Village	Saliwada
Population	1400 Male 650, Female 450, Children 300
Tribe composition Baiga/Gond/Panka	Lodhi, Yadav, Adewasi, Mehra, Katia
Name of Sacred Grove	Sardha Saliwada
Water bodies	Pond
Location of Sacred Grove	Near Village Saliwada comptt. no. 1204
Distance from District Headquarter	48 km.
Distance from Tehsil	8 km.
Distance from Near by village	3 km.
Area Occupied by Sacred Grove	500 m^2
No. of years in existence	50 years
Tradition (Manyata)	Wishes are fulfilled
Name of Deity	Sharda devi
Other Deity if any	Shankar, Bajrangbali, Kali, Panda
Name of Guniya / Priest	Ragu Panda (8th Pushta of Panchham Panda)
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Flowersmala, Coconut, Phoota Parched rice, Molasses, Dal, Rice.
Any devotional Song / Dance/Rituals	Ambey Mata ki Prayer, Satya Naryan ki Prayer and Ramayan etc.
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Daily
Time of Worship	Chita Navratri
On the Festival	Navratri
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Not cutting of tree in the adjoining area.
Plants and its associates	*Butea monosperma, Lagerstroemia perviflora,Tectona grandis, Annona squamata, Gmelina arborea, Tamarindus indica, Azadrachta indica, Ficus benghalensis, Mangifera indica, Dandrocalamus strictus, Diospyros melanoxylon, Semecarpus anacardium, Terminalia tomentosa, Ixora parviflora, Ziziphus oenopelia, Ziziphus mauritina, Cyperus iria, Cynodon dactylon, Borhavia diffusa, Mitragyna parvifolia, Nyctanthes arbortristis, Saceharum spontaneum, Smilax zeylanica, Syzium cumini.*

Sacred Grove - 45

District	Chhindwara
Tehsil	Amarwada
Block	Amarwada
Forest Range	Amarwada
Name of nearby Village	Bardia
Population	770 Male 370, Female 290, Children 170
Tribe composition Baiga/Gond/Panka	Gond and Adewasi
Name of Sacred Grove	Banjari Mata
Water bodies	Well
Location of Sacred Grove	6 km. to Amarwada chhindwara road Comptt. No. 1224
Distance from District Headquarter	34 km.
Distance from Tehsil	6 km.
Distance from Near by village	Tendnimal 1 km.
Area Occupied by Sacred Grove	200 m^2
No. of years in existence	50 years
Tradition (Manyata)	Wishes are fulfilled
Name of Deity	Banjari Mata
Other Deity if any	Majar and Well
Name of Guniya / Priest	Makhariya Bai
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Prasad, Mishthan
Any devotional Song / Dance/Rituals	Ambey Prayer
Entry Freedom-Y/N Any Specific day	Tuesday and Saturday
Day of Worship	Friday
Time of Worship	8:00 am and 8:00 pm.
On the Festival	14 DecemBer
Rules followed	Stop and pray while passing the area. No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Not cutting of trees in the adjoining area.
Plants and its associates	*Terminalia tomentosa, Angogeissus latifolia, Tectona grandis, Legerstromia parviflora, Acassia catachu, Ougenia oojeinensis, Litsea gluinosa, Shorea rabusta, Terminalia arjuna, Lantana camara, Calotropis procera, Betea monosperma, Abrus preatorium, Gardenia latifolia, Heteropogon contortus, Indigofera pulchella, Cynodon dactylon, Cymbopogon martini, Cassia tora, Bauhinia purpurea, Aristida setaceae, Adina cardifolia.*

Sacred Grove - 46

District	Chhindwara
Tehsil	Amarwada
Block	Amarwada
Forest Range	Amarwada
Name of nearby Village	Bardhi
Population	770 Male 310, Female 290, Children 170
Tribe composition Baiga/Gond/Panka	Gond and Adewasi
Name of Sacred Grove	Majar
Water bodies	Pump 1
Location of Sacred Grove	7 km. from Amarwada Comtt.no. 1224
Distance from District Headquarter Headquarter	41 km.
Distance from Tehsil	7 km.
Distance from Near by village	1 km.
Area Occupied by Sacred Grove	500 m^2
No. of years in existence	10 years
Tradition (Manyata)	NA
Name of Deity	Peer Baba
Other Deity if any	NA
Name of Guniya / Priest	NA
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Lobhan, Incense stick, Gulab etc.
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Friday
Time of Worship	Friday 6:00 am. – 7:00 pm.
On the Festival	Ramjan and Eid-ul-fitr
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Self conservation through plantation
Plants and its associates	*Terminalia tomentosa, Angogeissus latifolia, Tectona grandis, Legerstromia parviflora, Acassia catachu, Ougenia oojeinensis, Litsea gluinosa, Shorea rabusta, Terminalia arjuna, Lantana camara, Calotropis procera, Betea monosperma, Abrus preatorium, Gardenia latifolia, Heteropogon contortus, Indigofera pulchella, Cynodon dactylon, Cymbopogon martini, Cassia tora, Bauhinia purpurea, Aristida setaceae, Adina cardifolia.*

Sacred Grove - 47

District	Chhindwara
Tehsil	Pardruna
Block	Pardruna
Forest Range	Morghat
Name of nearby Village	Chikli
Population	400 - Male 200, Female 200
Tribe composition Baiga/Gond/Panka	Katiya, Lohar and Baudha
Name of Sacred Grove	Dadaji Dhuniwale Baba
Water bodies	Well
Location of Sacred Grove	1 km. away from Chikli village
Distance from District Headquarter	62 km.
Distance from Tehsil	42 km.
Distance from Near by village	0.5 km.
Area Occupied by Sacred Grove	50 m^2
No. of years in existence	50 years
Tradition (Manyata)	During the worship villagers used the ash which is given by priest to fullfil their desire.
Name of Deity	Bholenath
Other Deity if any	NA
Name of Guniya / Priest	Godri Anke
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Kapoor, Incense stick, Chironji (made up of sugar)
Any devotional Song / Dance/Rituals	Bhaj lo dadaji ka naam
Entry Freedom-Y/N Any Specific day	NA
Day of Worship	Saturday and Sunday
Time of Worship	NA
On the Festival	Guru Purnima and Shivratri
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Plantation needed for greenery
Plants and its associates	*Mangifera indica, Azadrachta indica, Terminalia chebula, Ficus benghalensis, Carissa opaca, Madhuca indica, Dandrocalamus strictus, Ocimum sanctum, Calotropis procera, Cynodon dactylon, Daedalacanthus puroraseens, Aristida setaceae, Annona squamosa, Aegle marmelos.*

Sacred Grove - 48

District	Chhindwara
Tehsil	Amarwada
Block	Amarwada
Forest Range	Amarwada
Name of nearby Village	Bhumka, Morkha
Population	1000 Male 350, Female 400, Children 250
Tribe composition Baiga/Gond/Panka	Gond, Lodhi, Yadav, Mehra
Name of Sacred Grove	Sidha Baba comptt no. 1155
Water bodies	Stream, Natural water resources
Location of Sacred Grove	Sidha Baba
Distance from District Headquarter	52 km.
Distance from Tehsil	12 km.
Distance from Near by village	1 km.
Area Occupied by Sacred Grove	400 m^2
No. of years in existence	50 years
Tradition (Manyata)	All wishes fulfilled
Name of Deity	Sidha baba
Other Deity if any	NA
Name of Guniya / Priest	Sukhulal, Sidha baba bale baba
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Chironji (made up of sugar), Ganja
Any devotional Song / Dance/Rituals	Ramayan, Bhajan Keertan Navadurga festival
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Tuesday
Time of Worship	Morning and Evening
On the Festival	Makar Sankranti
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Nut cutting of tree
Plants and its associates	*Mangifera indica, Butea monosperma, Scheichera oleosa, Mitragyna parviflora, Madhuca indica, Azadrachta indica, Diospyros melanoxylon , Semecarpus anacardium, Ougenia oogeinensis, Ficus relegiosa, Gmelina arborea, Annona squamosa, Aristolochia indica, Arundo donax, Briedelia retusa, Cymbopogon martini, Cynodon dactylon.*

Sacred Grove - 49

District	Chhindwara
Tehsil	Chaurai
Block	Chaurai
Forest Range	Chaurai
Name of nearby Village	1 km. Sunkh
Population	1050 Male 450, Female 500, Children 100
Tribe composition Baiga/Gond/Panka	Katiya, Kumhar, Gurai, Dhobi, Dahariya, Ahir, Chamara, Barbar
Name of Sacred Grove	Dongerdeo
Water bodies	Pench River
Location of Sacred Grove	Near Pench River Comptt. No. RF-1375
Distance from District Headquarter	50 km.
Distance from Tehsil	15 km.
Distance from Near by village	1 km.
Area Occupied by Sacred Grove	200 m^2
No. of years in existence	50 years
Tradition (Manyata)	All wishes fulfilled
Name of Deity	Dongar deo
Other Deity if any	Baghdeo Baba, Ammad paridhar, Sankar, Kappar devi, Naag Devta, Amma mai
Name of Guniya / Priest	Bhadu komre
Type of Sacred Grove – Collective (Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Bakra, Murga, Ganja
Any devotional Song / Dance/Rituals	Siva prayer
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Kprayer k and Purnima
Time of Worship	Morning and evening
On the Festival	Shivratri
Rules followed	No specific or strict rules followed, but common rules like entry without shoes, after taking bath and make ourself in neat and clean conditions have been followed.
Steps for conservation of sanctity	Plantation and fancing needed
Plants and its associates	*Diospyros melanoxylon, Tectona grandis Tamarindus indica, Aegle marmelos, Bauhina vareigata, Ficus benghalensis,Azadrachta indica, Embilica officinalis, Lagerstroemia perviflora, Anogeissus latifolia, Pterocarpus marsupium, Syzygium cumini, Terminalia arjuna, Acassia catachu, Butea monosperma, Albizia procera, Madhuca indica, Vernonia cineria , Lantana camara, Cynodon dactylon, Eragrotis tenella, Flacourtia indica, Imperata cylindrica, Xanthium strumarium.*

INVENTORY OF FLORAL DIVERSITY

An inventory of collected plant specimens has also been prepared. All the collected and inventoried specimens were identified with the help Flora of Tamil Nadu (Nair & Henry, 1983, Henry *et al.* 1987 & 1989), Flora of Bhopal (Oommachan, 1977) and Flora of Jabalpur (Oommachan & Shrivastava, 1996). Name changes were confirmed from recent literature (Bennett, 1996) and finally the specimens were arranged in their respective families following the Bentham and Hooker's system of classification (1862-1883).

A list of species found in the sacred groves was prepared and arranged family wise, alongwith specifying the rare and endangered species. According to particular habit, the collected plant species were also categorized as large trees, medium trees, small trees, shrubs, climbers, parasites, epiphytes, grasses and herbs. Some economically important medicinal plants were collected in the vital form of whole plants, rhizomes, corns, bulbs and seeds for the *ex-situ* conservation.

Tree diversity

The main forest tree species recorded are *Adina cardifolia, Aegle marmelos, Angogeissus latifolia, Azadirachta indica, Bauhinia retusa, Bauhinia malabarica, Bauhinia purpurea, Bauhinia variegata, Briedelia retusa, Buchanania lanzan, Butea monosperma, Careya arborea, Casia fistula, Chloroxylon swietenia, Cordia dichotoma, Dalbergia paniculata, Diospyros melanoxylon, Emblica officinalis, Ixora arborea, Feronia limonia, Ficus bengalensis, Ficus glomerata, Ficus religiosa, Ficus tomentosa, Flacourtia indica, Flcus hispida, Gardenia latifolia, Gardenia resinifera, Gmeliina arborea, Grewia tiliaefolia, Holoptelea integrifolia, Hymenodictyon excelsum, Kydia calycina, Lagerstroemia parviflora, Litsea glutinosa, Madhuca indica, Mallotus philippinensis, Mangifera indica, Mitragyna parvifolia, Ougenia oojeinensis, Pterocarpus marsupium, Randia dumetorum, Schleichera oleosa, Semecarpus anacardium, Sterculia urnens, Shorea rabusta, Soymida febrifuga, Syzygium cumini, Syzygium heyneanum, Tamarindus indica, Tectona grandis, Terminalia arjuna, Terminalia bellirica, Terminalia chebula, Terminalia tomentosa and Ziziphus xylopyra.*

Shrub diversity

Shrubs species recorded in the groves are *Achyranthes aspera, Alangium salviifolium, Anona squamosa, Antidesma diandrum, Antidesma ghassembillia, Asparagus recemosus, Calotropis gigantea, Carissa opaca, Colebrookia oppositifolia, Daedalacanthus puroraseens, Dodonea viscosa, Embelia robusta, Erianthus munja, Eualiopsis binata, Euphorbia hirta, Gardenia gummifera, Grewia hirsuta, Grewia rothii, Helicteres isora, Holarrhena antidysenterica, Indigofera pulchella, Ipomoea fistulosa, Jatropha curcas, Latana camara, Moghania semialata, Musa sapiertum, Nyctanthes arbortristis, Pogostemon benghalensis, Ricinus communis, Tamarix dioica, Thespesia lampas, Tribulus terrestris, Vernonia divergens, Vitex negundo, Woodfordia fruiticosa and Zizyphus nummularia.* Climber species are *Abrus precatorious; Ampelocissus latifolia, Aristolochia indica, Bauhinia vahlii, Butea superba, Celastrus paniculata, Clematis triloba, Dioscorea damona, Mucuna prurita, Smilax zeylanica and Ventilago calyculata* are also present in the sacred groves.

Ground flora diversity

During the field survey, diversity of ground flora was found less in different sacred groves. It was observed that villagers clear the ground flora near the worship places during festivals and other ceremonies. Biotic pressure resulted in to decrease in the number of herbaceous species and more. It was also observed that old beliefs related to sacred groves, such as and more species are being added to RET categories cutting of trees in sacred groves premises was restriced are fast disappearing replaced by the belief to make sacred grove premises neat and clean for worship.

In the ground flora, species namely *Achyranthes aspera, Adhatoda vasica, Desmodium pulchellum, Cassia tora, Curculigo orchioides, Eclipta prostrata, Ocimum sanctum, Solanum nigrum and Xanthium strumarium* were recoreded under herbs. and grass species like *Apuda mutica, Aristida setaceae, Arundo donax, Cymbopogon martini, Cynodon dactylon, Desmostachya bipinnata, Dichanthium annulatum, Eragrostis interrupta, Eragrotis tenella, Heteropogon contortus, Imperata cylindrica, Pennisetum hohenackeri, Saccharum spontaneum, Themeda guadrivalvis and Thysanolaena maxima. Cuscuta reflexa and Dendrophthoe falcate* were found as parasitic plants in the area.

During the field, an inventory has also been made of plant species available in the adjoining areas of Sacred Groves. The plants are further categorized as large, medium and small sized Trees, Shrubs, Climbers, Bamboo, Parasites, Grasses, etc. A total of 141 plant species belonging to 114 genera of 47 families have been identified. The botanical names, local names and family wise plant species are given in **Table - 6**.

Table - 6: Plant species recorded from Sacred Groves

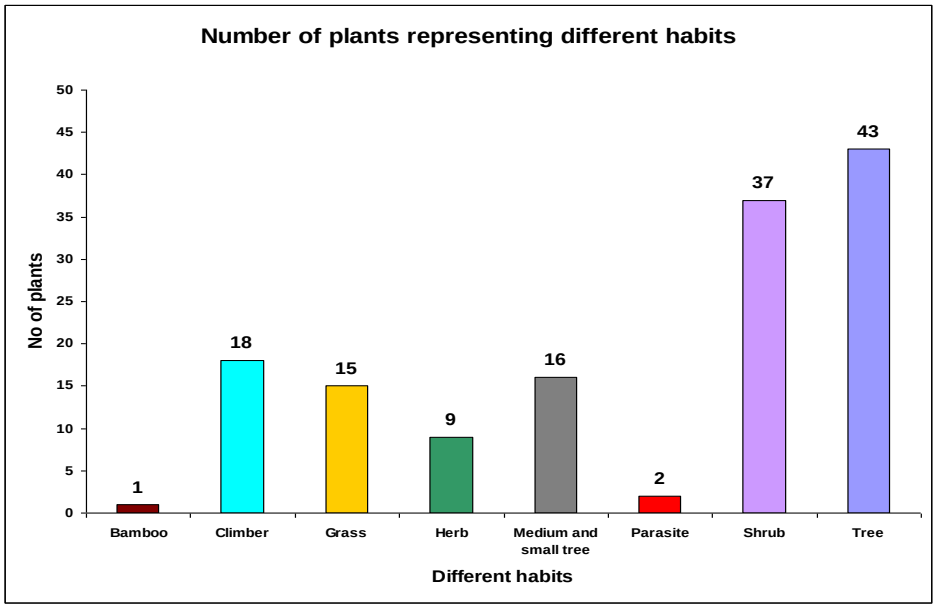
S. No.	Botanical Name	Local Name	Family
1.	*Abrus precatorius*	Gunj	Fabaceae
2.	*Acacia catechu*	Khair	Mimosaceae
3.	*Acacia leucophloca*	Rinjha	Mimosaceae
4.	*Achyranthes aspera*	Chirchita	Amaranthaceae
5.	*Adhatoda vasica*	Adusa	Acanthaceae
6.	*Adina cordifolia*	Haldu	Rubiaceae
7.	*Aegle marmelos*	Bel	Rutaceae
8.	*Alangium salviifolium*	Akol	Alangiaceae
9.	*Ampelocissus latifolia*	Dokarbel	Ampeloicacea /Vitaceae
10.	*Andrographis paniculata*	Bhineem	Acanthaceae
11.	*Anogeissus latifolia*	Dhawda	Combrataceae
12.	*Annona squamosa*	Sitaphal	Annonaceae
13.	*Antidesma diandrum*	Khatua	Lamiaceae
14.	*Antidesma ghassembillia*	Jondhar	Lamiaceae
15.	*Apluda mutica*	Bhuli	Poaceae
16.	*Aristida setaceae*	Jhani	Poaceae
17.	*Aristolochia indica*	Ishwarmul	Poaceae
18.	*Arundo donax*	Baidanga	Poaceae
19.	*Asparagus recemosus*	Satavari	Liliaceae
20.	*Azadirachta indica*	Neem	Meliaceae
21.	*Bauhinia malabarica*	Amta	Caeselpiniaceae

S. No.	Botanical Name	Local Name	Family
22.	*Bauhinia purpurea*	Keolar	Caeselpiniaceae
23.	*Bauhinia retusa, Ham*	Sehra	Caesalpiniaceae
24.	*Bauhinia vahlii*	Mahul	Caeselpiniaceae
25.	*Bauhinia variegata*	Kachnar	Caeselpiniaceae
26.	*Borhaavia diffusa*	Rukhadi	Nyctaginaceae
27.	*Briedelia retusa*	Kasai	Euphorbiaceae
28.	*Buchanania lanzan*	Achar, Chirongi	Anacardiaceae
29.	*Butea monosperma*	Palas	Fabaceae
30.	*Butea parviflora, Roxb*	Nasbel	Fabaceae
31.	*Butea superba*	Palasbel	Fabaceae
32.	*Calotropis gigantea*	Aak	Asclepidaceae
33.	*Careya arborea*	Kumbhi	Myrtaceae
34.	*Carissa opaca, Stapf.*	Karonda	Rubiacaea
35.	*Casia fistula*	Amaltas	Caeselpiniaceae
36.	*Cassia tora*	Pawar	Fabaceae
37.	*Celastrus paniculata*	Malkangni	Celastraceae
38.	*Chloroxylon swietenia, D.C.*	Bhirra	Rutaccae
39.	*Clematis smilacifolia*	Pasaran	Rannunculaceae
40.	*Clematis triloba*	Pasaran	Rannunculaceae
41.	*Colebrookea oppositifolia*	Balabana	Acanthaceae
42.	*Cordia dichotoma, Forest F.*	Lasora	Ehretiaceae
43.	*Cryptolepis buchanani*	Nagbel	Asclepidaceae
44.	*Curculigo orchioides*	Kalimusli	Zingibaraceae
45.	*Cuscuta reflexa*	Amarbel	Convolvulaceae
46.	*Cymbopogon martini*	Rusa	Poaceae
47.	*Cynodon dactylon*	Duba	Poaceae
48.	*Daedalacanthus puroraseens*	Vantulsi	Acanthaceae
49.	*Dalbergia paniculata*	Dhobin	Fabaceae
50.	*Dendrocalamus strictus*	Bans	Poaceae
51.	*Dendrophthoe falcate*	Banda	Proteaceae
52.	*Derris scandens*	Tupbel	Fabaceae
53.	*Desmodium pulchellum*	Chipti	Febaceae
54.	*Desmostachya bipinnata*	Kusha	Poaceae
55.	*Dichanthium annulatum*	Bharbel	Poaceae
56.	*Dioscorea daemona*	Bechandi	Dioscoreaceae
57.	*Diospyros melanoxylon*	Tendu	Dioscoreaceae
58.	*Dodonea viscose*	Khareta	Asteraceae
59.	*Eclipta prostrate*	Bringraj	Asteraceae
60.	*Embelia robusta*	Baibidang	Myrsinaceae
61.	*Emblica officinalis*	Aonla	Euphorbiaceae
62.	*Eragrostis interrupta*	Bhurbhuri	Poaceae
63.	*Eragrotis tenella*	Bhurburia	Poaceae
64.	*Erianthus munja*	Munja	Poaceae
65.	*Eualiopsis binata*	Sabai	Poaceae
66.	*Euphorbia neriifolia*	Thuar	Euphorbiaceae
67.	*Exora arborea*	Lokhandi	Rubiaceae
68.	*Feronia limonia*	Kaitha	Rutaceae

S. No.	Botanical Name	Local Name	Family
69.	*Ficus bengalensis*	Bad, Bargad	Moraceae
70.	*Ficus glomerata*	Gular	Moraceae
71.	*Ficus hispida*	Katgular	Moraceae
72.	*Ficus religiosa*	Pipal	Moraceae
73.	*Ficus tomentosa*	Sonpaper	Moraceae
74.	*Flacourtia indica*	Kakai	Flacourtiaceae
75.	*Gardenia gummifera*	Kurka	Rubiaceae
76.	*Gardenia latifolia*	Papda	Rubiaceae
77.	*Gardenia resinifera*	Dekamali	Rubiaceae
78.	*Gmelina arborea*	Gamari, Khamer	Verbinaceae
79.	*Grewia hirsute*	Gudsakri	Tiliaceae
80.	*Grewia rothii*	Khursi	Tiliaceae
81.	*Grewia tiliaefolia*	Dhamin	Tiliaceae
82.	*Helicteres isora*	Marorphal	Sterculiaceae
83.	*Heteropogon contortus*	Kusul	Poaceae
84.	*Holarrhena antidysenterica*	Kurchi	Apocynaceae
85.	*Holoptelia integrifolia*	Chirol, Chilbil	Ulmaceae
86.	*Hymenodictyon excelsum*	Bhorsal	Rubiaceae
87.	*Ichnocarpus frutescens*	Dhemarbel	Acanthaceae
88.	*Imperata cylindrical*	Cheer	Poaceae
89.	*Indigofera pulchella*	Neeli	Fabaceae
90.	*Ipomoea fistulosa*	Besharam	Convolvulaceae
91.	*Jatropha curcas*	Ratanjot	Euphorbiaceae
92.	*Kydia calycina*	Pula	Malvaceae
93.	*Lagerstroemia parviflora*	Seja, Lendia	Lytheraceae
94.	*Lantana camara*	Raimuniya	Verbinaceae
95.	*Litsea glutinosa*	Maidachal	Glutinaceae
96.	*Madhuca indica*	Mahua	Sapotaceae
97.	*Mallotus philippinensis*	Roli	Euphorbiaceae
98.	*Mangifera indica*	Aam	Anacardiaceae
99.	*Milletia auriculata*	Gonja	Fabaceae
100.	*Mitragyna parvifolia*	Mundi	Rubaceae
101.	*Moghania semialata*	Vanrahar	Fabaceae
102.	*Mucuna prurita*	Keowach	Fabaceae
103.	*Nyctanthes arbortristis*	Harsingar	Nyctaginaceae
104.	*Ocimum sanctum*	Tulsi	Labiatae
105.	*Ougenia oojeinensis*	Tinsa	Fabaceae
106.	*Pennisetum hohenackeri*	Moya	Poaceae
107.	*Pogostemon benghalensis*	Kora	Lamiaceae
108.	*Pterocarpus marsupium*	Bija	Fabaceae
109.	*Randia dumetorum*	Mainhar	Rubiaceae
110.	*Ricinus communis*	Andi, Arandi	Euphorbiaceae
111.	*Saccharum spontaneum*	Kans	Poaceae
112.	*Schleichera oleosa*	Kusum	Oleaceae
113.	*Semecarpus anacardium*	Bhilwa, Bhilma	Anacardaceae
114.	*Shorea rabusta, Gareth*	Sal, Salai	Dipteriocarpaceae
115.	*Smilax zeylanica*	Ramdatun	Smilaceace

S. No.	Botanical Name	Local Name	Family
116.	*Solanum nigrum*	Bhatkataiya	Solanaceae
117.	*Soymida febrifuga*	Rohan	Meliaceae
118.	*Sterculia urens*	Kullu	Sterculiaceae
119.	*Syzygium cumini*	Jamun	Myrtaceae
120.	*Syzygium heyneanum*	Chotijamun	Myrtaceae
121.	*Tamarindus indica*	Imli	Caesalpiniaceae
122.	*Tamarix indica*	Jhau	Tamaridaceae
123.	*Tectona grandis*	Sagon	Verbenaceae
124.	*Terminalia arjuna*	Arjun, Koha	Combrataceae
125.	*Terminalia bellirica*	Bahera	Combrataceae
126.	*Terminalia chebula*	Harra	Combrataceae
127.	*Terminalia tomentosa*	Saja	Combrataceae
128.	*Themeda quadrivalvis*	Gunhera	Poaceae
129.	*Thespesia lampas*	Vankapas	Malvaceae
130.	*Thysanolaena maxima*	Phulbahari	Poaceae
131.	*Tribulus terrestris*	Gokhru	Zygophylaceae
132.	*Vallaris solanacea*	Dudhbel	Acanthaceae
133.	*Ventilago calyculata*	Kewti	Rhamnaceae
134.	*Vernonia cinera*	Choti mohti	Asteraceae
135.	*Vernonia divergens*	Mohti	Asteraceae
136.	*Vitex negundo*	Nirgudi	Verbinaceae
137.	*Woodfordia fruiticosa*	Dhawai	Lythraceae
138.	*Xanthium strumarium*	Gokhru	Asteraceae
139.	*Zizyphus xylopyra*	Ghont	Rhamnaceae
140.	*Zizyphus jujube*	Ber	Rhamnaceae
141.	*Zizyphus oenoplia*	Makoi	Rhamnaceae

A total of 141 plant species have been identified out of which different habits, namely Bamboos, Climbers, Grasses, Herbs, Medium & Small Trees, Parasites, Shrubs and Trees are represented by 1, 18, 15, 9, 16, 2, 37 and 43 plant species respectively as shown in figure;



Among the total 47 families found at the study sites, 21 families were monotypic families as they have only one species. Accordingly 10 families are having only two species, whereas 4 families have three species, 3 families 4 species, 4 families 5 species and 1 family having 7 species, 1 family having 14 species, and 1 family having 19 species (total 141 species).

Poaceae is the most dominant family and holds the first position with 19 species followed by Fabaceae having 14 species. The other major dominant families from third position to tenth position are Rubiaceae (09 species), Caesalpiniaceae (07 species), Euphorbiaceae (06 species), Moraceae, Acanthacea, Combrataceae, Asteraceae (05 species each) and Rhamnaceae, Verbenaceae, Lamiaceae (04 species each) respectively.

Phytosocioloy

Total 32 tree species were recorded from the area. **Table – 7** shows the phytosociological attribute of tree species diversity determined with reference to frequency %, density ha^{-1}, IVI and diversity index. The total density ha^{-1} in different sacred grove was recorded. Species, namely *Anogeissus latifolia, Terminalia alata and Lagerstoemia parviflora* show 75 to 100% frequency, whereas species *Diospyros melanoxylon, Tectona grandis and Phyllanthus emblica* show 50 to 75%; *Acacia catechu, Acacia leucophloea, Bridellia retusa, Mitragyna parviflora, Semecarpus anacardium, Terminalia bellirica, Ougeinia oogeinensis, Terminalia chebula, Albizia lebbeck, Bombax ceiba, Buchanania lanzan, Butea monosperma, Flacourtia indica and Madhuca latifolia* 25 to 50% and *Aegle marmelos, Feronia limonia, Ficus religiosa, Mallotus phillipensis, Dalbergia paniculata and Careya arborea* less then 25% frequencies. The maximum values of basal area m^2 ha^{-1} occupied by the species *Lagerstoemia parviflora* as 23.86 m^2 ha^{-1}. The highest IVI value (67.89) was calculated for *Lagerstoemia parviflora.* The lowest IVI value (2.16) was found for *Mallotus phillipensis.* Maximum and minimum values for diversity index were 0.34 and 0.04 for *Legerstromia* and *Mallotus* calculated, respectively.

Table – 7 : Phytosociological attributes of tree species diversity in different sacred groves of Chhindwara district

S.No.	Botanical Name	F %	D/ha	IVI	DI
1	*Acacia catechu*	28.57	2.68	4.52	0.06
2	*Acacia leucophloea*	28.57	2.38	4.38	0.06
3	*Aegle marmelos*	14.29	0.89	2.64	0.04
4	*Albizia lebbeck*	38.10	3.27	7.84	0.10
5	*Anogeissus latifolia*	85.71	16.96	23.30	0.20
6	*Bombax ceiba*	38.10	2.68	5.24	0.07
7	*Bridelia retusa*	28.57	2.38	5.88	0.08
8	*Buchanania lanzan*	42.86	3.87	8.81	0.10
9	*Butea monosperma*	42.86	3.57	6.54	0.08
10	*Careya arborea*	23.81	1.79	4.09	0.06
13	*Dalbergia paniculata*	19.05	1.49	4.41	0.06
14	*Diospyros melanoxylon*	52.38	5.65	9.85	0.11
15	*Feronia limonia*	14.29	1.79	3.15	0.05
17	*Ficus religiosa*	14.29	0.89	3.95	0.06
18	*Flacourtia indica*	47.62	4.46	7.94	0.10
20	*Lagerstoemia parviflora*	100.00	66.37	67.89	0.34

21	*Madhuca latifolia*	47.62	4.17	10.88	0.12
22	*Mallotus phillipensis*	14.29	1.19	2.16	0.04
24	*Mitragyna parviflora*	28.57	2.38	4.70	0.07
25	*Ougeinia oogeinensis*	33.33	2.08	6.31	0.08
26	*Phyllanthus emblica*	66.67	9.23	13.59	0.14
27	*Semecarpus anacardium*	28.57	2.98	5.59	0.07
29	*Tectona grandis*	52.38	8.93	14.97	0.15
30	*Terminalia alata*	85.71	16.37	30.06	0.23
31	*Terminalia bellirica*	28.57	2.68	8.83	0.10
32	*Terminalia chebula*	33.33	3.27	6.77	0.09

The total density ha^{-1} in this area was recorded to be 174 trees ha^{-1} out of which, *Lagerstoemia parviflora, Anogeissus latifolia* and *Terminalia alata* species were represented by 66.37 trees ha^{-1}, 16.96 trees ha^{-1} and 16.37 trees ha^{-1} , respectively. During the survey sacred groves of in Mandla district, it was also observed that density ha^{-1} of *Lagerstoemia parviflora* was maximum i.e. 69 trees ha^{-1} (SFRI report 2007). Generally, *Lagerstoemia parviflora* grows in degraded land, with biotic pressure. During the field survey, it was observed that most of the sacred groves were found in degraded areas having biotic pressure. Data also reported that diversity of fruit bearing trees is more near the sacred groves. *Dalbergia paniculata, Careya arborea, Feronia limonia* and *Mallotus phillipensis* were present with only 1 tree in the area. These species are also decreasing in the natural forest area due to biotic pressure. The highest IVI value was calculated for *Lagerstoemia parviflora* (IVI - 0.34), *Terminalia alata* (IVI - 0.23) and *Phyllanthus emblica* (IVI - 0.23). The lowest diversity index values were recorded in *Aegle marmelos* (0.04), *Mallotus phillipensis* (0.04), *Feronia limonia* (0.05), *Dalbergia paniculata* (0.06), *Careya arborea* (0.06), *Acacia catechu* (0.06), *Acacia leucophloea* (0.06) and *Ficus religiosa* (0.06).

	Table - 8 : Phytosociological attributes of shrub species diversity				
S.No.	**Botanical Name**	**F%**	**D/ha**	**IVI**	**DI**
1	*Acacia catechu*	34.92	501.59	13.46	0.14
2	*Acacia leucophloea*	23.81	292.06	9.53	0.11
3	*Aegle marmelos*	4.76	50.79	4.64	0.06
4	*Albizia lebbeck*	11.11	57.14	3.47	0.05
5	*Anogeissus latifolia*	74.60	615.87	16.59	0.16
6	*Buchanania lanzan*	15.87	139.68	6.02	0.08
7	*Butea monosperma*	19.05	215.87	7.97	0.10
9	*Diospyros melanoxylon*	82.54	685.71	18.11	0.17
10	*Feronia limonia*	15.87	139.68	6.02	0.08
12	*Ficus religiosa*	3.17	31.75	4.06	0.06
13	*Flacourtia indica*	79.37	615.87	16.91	0.16
15	*Helicteres isora*	95.24	1200.00	25.96	0.21
16	*Jatropha gossypifolia*	20.63	304.76	10.18	0.11
17	*Lagerstoemia parviflora*	80.95	774.60	19.25	0.18
18	*Lantana camara*	87.30	1250.79	26.23	0.21
19	*Madhuca latifolia*	66.67	603.17	15.91	0.16
20	*Mallotus phillipensis*	15.87	273.02	10.21	0.12
21	*Miliusa tomentosa*	36.51	419.05	11.82	0.13
22	*Ougeinia oogeinensis*	3.17	57.14	7.05	0.09
23	*Phyllanthus emblica*	34.92	349.21	10.46	0.12

24	*Semecapus anacardium*	28.57	279.37	9.04	0.11
25	*Tectona grandis*	34.92	285.71	9.21	0.11
26	*Terminalia alata*	66.67	634.92	16.39	0.16
27	*Terminalia chebula*	15.87	209.52	8.22	0.10

The status of shrub layer is constituted by an association of 27 species. *Lantana camara, Helicteres isora* and *Lagerstoemia parviflora* are represented by 1250 plants^{-1} , 1200 plants^{-1} and 774 plants^{-1} respectively. In respect of frequency%, *Helicteres isora* attained the first position followed by *Lantana camara* and Lagerstoemia *parviflora.* Data also revealed that established regeneration of *Lagerstoemia parviflora, Acacia catechu, Anogeissus latifolia, Diospyros melanoxylon, Flacourtia indica, Helicteres isora, Madhuca latifolia* and *Terminalia alata* was good i.e. more than 500 plants^{-1} . The maximum IVI values were determined for shrub species namely *Lantana camara* (IVI – 26.23), *Helicteres isora* (IVI – 25.96) and *Lagerstoemia parviflora* (IVI – 19.25) IVI of *Lantana camara* in the sacred groves of Mandla was the maximum IVI – 59.61 (SFRI report 2007), whereas minimum values of IVI are shown by the species *Albizia lebbeck* (IVI – 3.47), Ficus religiosa (IVI – 4.06) and Aegle marmelos (IVI – 4.64) (**Table -8**).

Table - 9 : Phytosociological attributes of herbaceous species diversity

S.No.	Botanical Name	F%	Density/ha	IVI	DI
1.	*Aerva lanata*	19.05	4571.43	1.62	0.03
2.	*Aerva sanguinolenta*	9.52	1523.81	0.77	0.02
3.	*Ageratum conyzoides*	7.62	1428.57	0.75	0.02
4.	*Alternanthera sessilis*	18.10	3904.76	1.46	0.03
5.	*Alysicarpus hamosus*	4.76	1142.86	0.72	0.01
6.	*Alysicarpus tertragonolobus*	4.76	1619.05	0.96	0.02
7.	*Amorphophallus campanulatus*	0.95	380.95	0.78	0.02
8.	*Ampelosissus latifolia*	2.86	380.95	0.37	0.01
9.	*Anogeissus latifolia*	48.57	9333.33	3.07	0.05
10.	*Aristida funiculata*	2.86	476.19	0.44	0.01
11.	*Arthaxon hispidus*	75.24	17904.76	5.13	0.07
12.	*Arundinella pumila*	0.95	380.95	0.78	0.02
13.	*Aspargus racemosus*	2.86	666.67	0.59	0.01
14.	*Barleria prionitis*	9.52	1428.57	0.74	0.01
15.	*Bidens biternata*	0.95	380.95	0.78	0.02
16.	*Biophytum sensitivum*	2.86	476.19	0.44	0.01
17.	*Blepharis maderaspatensis*	1.90	476.19	0.56	0.01
18.	*Blumea obliqua*	0.95	190.48	0.40	0.01
19.	*Boerhaavia diffusa*	0.95	380.95	0.78	0.02
20.	*Bridelia retusa*	13.33	4285.71	1.55	0.03
21.	*Capparis zeylanica*	1.90	380.95	0.46	0.01
22.	*Careya arborea*	14.29	3619.05	1.37	0.02
23.	*Cassia tora*	32.38	9428.57	2.78	0.04
24.	*Ceropegia bulbosa*	2.86	761.90	0.66	0.01
25.	*Chloris virgata*	4.76	952.38	0.62	0.01
26.	*Citrulus lanatus*	4.76	1142.86	0.72	0.01
27.	*Cleistanthus collinus*	5.71	857.14	0.55	0.01
28.	*Cleome viscosa*	2.86	666.67	0.59	0.01
29.	*Combretum roxburghii*	2.86	857.14	0.73	0.01

30.	*Convolvulus prostratus*	4.76	476.19	0.38	0.01
31.	*Cuscuta reflexa*	5.71	952.38	0.59	0.01
32.	*Cymbopogon martini*	11.43	1714.29	0.84	0.02
33.	*Cynodon dactylon*	39.05	6571.43	2.36	0.04
34.	*Cyperus rotundus*	20.00	3523.81	1.39	0.02
35.	*Cyperus iria*	11.43	1619.05	0.81	0.02
36.	*Desmodium microphyllum*	9.52	1428.57	0.74	0.01
37.	*Dioscorea bulbifer*	8.57	1714.29	0.84	0.02
38.	*Echinops echinatus*	41.90	7047.62	2.51	0.04
39.	*Eragrostis tenuifolia*	5.71	2095.24	1.10	0.02
40.	*Eragrostis viscosa*	2.86	476.19	0.44	0.01
41.	*Euphorbia hirta*	9.52	1904.76	0.90	0.02
42.	*Flacourtia indica*	1.90	476.19	0.56	0.01
43.	*Gardenia gummifera*	2.86	1333.33	1.09	0.02
44.	*Hamiltonia suaveolens*	1.90	952.38	1.06	0.02
45.	*Helicteres isora*	16.19	3142.86	1.26	0.02
46.	*Hemidesmus indicus*	39.05	8857.14	2.78	0.04
47.	*Heteropogon contortus*	2.86	761.90	0.66	0.01
48.	*Hyptis suaveolens*	92.38	37047.62	8.58	0.10
49.	*Ichnocarpus frutescens*	2.86	952.38	0.80	0.02
50.	*Indigofera astragalina*	2.86	857.14	0.73	0.01
51.	*Ipomoea fistulosa*	8.57	1428.57	0.74	0.01
52.	*Lantana camara*	52.38	14761.90	4.09	0.06
53.	*Leucas aspera*	14.29	3809.52	1.42	0.03
54.	*Madhuca latifolia*	5.71	1428.57	0.81	0.02
55.	*Mitragyna parviflora*	9.52	1428.57	0.74	0.01
56.	*Ocimum canum*	28.57	8571.43	2.56	0.04
57.	*Panicum notatum*	5.71	571.43	0.42	0.01
58.	*Phoenix acaulis*	11.43	3904.76	1.48	0.03
59.	*Polygonum glabrum*	34.29	8476.19	2.63	0.04
60.	*Pongamia pinnata*	5.71	1428.57	0.81	0.02
61.	*Rungia repens*	11.43	4285.71	1.59	0.03
62.	*Scoparia dulcis*	2.86	476.19	0.44	0.01
63.	*Sesbania sesban*	4.76	761.90	0.53	0.01
64.	*Sida alba*	1.90	571.43	0.66	0.01
65.	*Sida cordifolia*	2.86	476.19	0.44	0.01
66.	*Sida rhombifolia*	16.19	1904.76	0.95	0.02
67.	*Smilax zeylanica*	11.43	1333.33	0.73	0.01
68.	*Sphaeranthus indicus*	11.43	3142.86	1.26	0.02
69.	*Striga asiatica*	16.19	3904.76	1.44	0.03
70.	*Tephrosia purpurea*	36.19	4666.67	1.94	0.03
71.	*Tribulus terrestris*	4.76	666.67	0.48	0.01
72.	*Tridex procumbens*	11.43	1619.05	0.81	0.02
73.	*Triumphetta annua*	5.71	952.38	0.59	0.01
74.	*Triumphetta pentandra*	11.43	1333.33	0.73	0.01
75.	*Uraria picta*	9.52	1333.33	0.71	0.01
76.	*Urena lobata*	17.14	4285.71	1.54	0.03
77.	*Vernonia cinerea*	37.14	8000.00	2.59	0.04

78.	*Vitex negundo*	8.57	952.38	0.58	0.01
79.	*Woodfordia fruticosa*	7.62	1142.86	0.65	0.01
80.	*Xanthium strumarium*	8.57	952.38	0.58	0.01

The total density for the 80 species was found in the area. Total density of the herbecious flora is 242476.1, out of which the maximum density is contributed by *Hyptis suaveolens* (37047 plants^{-1}) followed by *Arthaxon hispidus* (17904 plants^{-1}) *Lantana camara* (14761 plants^{-1}) and *Cassia tora* (9427 plants^{-1}). Presence of the above species indicated that area is having much biotic pressure. Table -9 reveals that maximum IVI value of herbaceous layer in this area was recorded by *Hyptis suaveolens* (IVI – 8.58), *Arthaxon hispidus* (IVI – 5.13) and *Lantana camara* (IVI – 4.09), while maximum values were shown by the species *Ampelosissus latifolia* (IVI – 0.37), *Blumea oblique* (IVI – 0.40) and *Aristida funiculate, Biophytum sensitivium, Eragrostis viscosa* represented by IVI – 0.44. Data also revealed that regeneration of tree species viz; *Anogeissus latifolia, Bridelia retusa, Careya arborea, Flacourtia indica, Gardenia gummifera, Hamiltonia suaveolens, Madhuca latifolia, Mitragyna perviflora, Pongamia pinnata and Sesbania sesban* is also present in the area. IVI values of *Aspargus racemosus* (0.59), *Ceropegia bulbosa* (0.66), *Citrulus lanatus* (0.72), *Cyperus rotundus* (1.39), *Helicteres isora* (1.26), *Ichnocarpus frutescens* (0.80), *Smilax zeylanica* (0.73) and *Vitex negundo* (0.58) indicated that these medicinal plant species are becoming rare in the area.

COMMUNITY CORRELATION COEFFICIENT

We had proposed to calculate community correlation coefficient assuming that certain sacred groves might be large in size but after survey, it was found that non of the sacred groves in the study area was larger than 500 m^2 in size. Community correlation coefficient can be of significance only in larger area. Therefore, this coefficient was not calculated to record the difference between plant or otherwise community and as vegetation thus not very much in smaller areas as 1000 m^2 therefore it was not calculated. We have calculated Density, Frequency, Abundance, Important Value Index and Diversity Index under Phyto-sociological study of the Sacred Groves.

FAUNAL DIVERSITY

A list of 21 wild animals was prepared on the basis of indirect/direct evidence during the field survey. Hindi and zoological names are given in the following **Table -10**;

Table - 10: List of wild animals and birds sited during survey

Hindi Name	Zoological Name
Bater	*Coturnix coturnix*
Bulbul	*Pycnontus jocosu*
Koel	*Coculus hirsutus*
Fakhta	*Streptopelia decaocto*
Girgit	*Calotes versicolor*
Ghutari	*Muntjak muticas*
Gidha	*Gyps bengalensis*
Gilhari	*Funambulus palmarum*
Goraiya	*Passer domesticus*
Harial	*Treron phoenicoptera*

Jungle Kowwa	*Corvus macrorhynchos*
Jungli myna	*Acridotheres ginginianus*
Kabutar	*Columba livia*
Katphora	*Dendroccopos mahrattensis*
Khargosh	*Lupus rufcaudatus*
Kowwa	*Carvus splendens*
Langur	*Presbytis entellus*
Myna	*Sturnus pagodarum*
Neelkanth	*Coracias benghalensis*
Ulloo	*Bubo zeylonensis*
Titar	*Francolinus pictus*

ETHNOBOTANICAL KNOWLEDGE

Forest resources, comprising of whole plants, plant parts and their products available in the area, have direct and indirect impact on the life of local tribals, forest dwellers and many other backward inhabitant groups. The sociological system, custom, cultures and life patterns of these groups are also closely related with forests. They utilize forest produce for food, fodder, medicine, fuel, gum, agricultural implements, aromatic oils, basketry works, charcoal, decoration, defence equipment, dye, fencing, fishing, furniture, house building, hunting equipments, implements, musical instruments, poison, rope, smoking, socio-religious activities, timber, tools, utensils etc. for their sustenance, daily needs and many other consumer products for self-consumption. Forests are not only the source of major and minor forest produce but also fulfil the basic day to day needs and demands, directly and indirectly in life pattern of forest fringe dwelling communities. They also use an enormous range of wild plants and have developed a unique understanding of the forest resources and passed on these traditions, taboos, totems, folklore, traditional medicinal remedies and knowledge etc. by word of mouth from one generation to other generation. They also have the key to understand, utilize and conserve the plant resources. The storage of ethnobotanical traditional knowledge of plant and animal origin in memory is really a God's gift for a resource person in each tribal group. Each tribal group has different ethnobotanical knowledge than its neighbors, which is either acculturated or lost with the knowledgeable person of that tribe.

Local population of the villages is also engaged in collection of food items like vegetables, leaves, fruits, seeds, tubers, pehri etc. from wild for their self sustenance. These plants species are utilized according to their availability during the season and scarcity as raw, after cooking, boiling, when ripe, after making paste, in the form of juice, prickles etc. 81 plant species are belonging to this category. Plants are also utilized in multipurpose ways in making agricultural implements, as aromatic agent, basketry work, decoration, defence equipments, dyes and tannins, fencing and protection, fishing and hunting, fibers, fodder, fuel, furniture and house building, implements and tools, socio-religious and sacred purpose.

Names of the plants representing different ethno-botanical use categories are given as under;

1. Wild Edible Plants (143)

Abelmoschus manihot, Aegle marmelos, Amaranthus viridis, Annona squamosa, Anthocephalus cadamba, Artocarpus lakoocha, Asparagus racemosus, Azadirachta indica, Bambusa arundinacea, Bauhinia vahlli, Bauhinia variegata, Bridelia retusa, Buchanania

lanzan, Butea monosperma, Butea parviflora, Butea superba, Capparis zeylanica, Carissa carandas, Carissa opaca, Carissa spinarum, Cassia tora, Chlorophytum auruandinaceum, Coccinia grandis, Cordia dichotoma, Derris indica, Dillenia pentagyna, Dioscorea bulbifera, Dioscorea glabra, Dioscorea hispida, Dioscorea pentaphylla, Dioscorea pubera, Dioscorea wightii, Diospyos melanoxylon, Ehretia laevis, Feronia limonia, Ficus glomerata, Flacourtia indica, Gardenia turgida, Grewia tiliifolia, Holoptelea integrifolia, Ipomoea nil, Lantana camara, Leea macrophylla, Madhuca indica, Mangifera indica, Manilkara hexandra, Moringa oleifera, Mucuna pruriens, Pithecelobium dulce, Pogostemon purpurascens, Schleichera oleosa, Semecarpus anacardium, Smilax zeylanica, Solanum nigrum, Sterculia urens, Syzygium cumini, Syzygium heyneanum, Tamarindus indica, Ventilago denticulata, Wrightia tinctoria, Ziziphus mauritiana, Ziziphus nummularia and Ziziphus oenoplia.

2. Agricultural Implements (114)

Acacia catechu, Acacia nilotica, Ailanthus excelsa, Albizia lebbeck, Albizia procera, Anogeissus latifolia, Bambusa arundinacea, Boswellia serrata, Buchanania lanzan, Careya arborea, Cassia fistula, Cleistanthus collinus, Cordia dichotoma, Dalbergia latifolia, Dalbergia paniculata, Dillenia pentagyna, Diospyos melanoxylon, Gardenia latifolia, Gmelina arborea, Grewia tiliifolia, Holoptelea integrifolia, Kydia calycina, Lagerstoemia parviflora, Litsea glutinosa, Mitragyna parviflora, Ougeinia oogeinensis, Pterocarpus marsupium, Schleichera oleosa, Tectona grandis, Terminalia arjuna, Terminalia bellirica, Terminalia chebula, Wendlandia exserta and *Wrightia tinctoria*.

3. Basketry Work (14)

Abutilon indicum, Agave americana, Apluda mutica, Bambusa arundinacea, Bauhinia vahlli, Bombax ceiba, Butea monosperma, Dalbergia latifolia, Dendrocalamus strictus, Desmodium pulchellum, Ichnocarpus fruitescens, Phoenix acaulis, Vitex negundo and *Woodfordia fruticosa.*

4. Decoration (8)

Bambusa arundinacea, Bauhinia vahlli, Bombax ceiba, Butea monosperma, Dendrocalamus strictus, Ficus benghalensis, Mangifera indica and Phoenix acaulis.

5. Defense Equipments (16)

Ailanthus excelsa, Albizia procera, Bambusa arundinacea, Bauhinia vahlli, Butea monosperma, Ceiba pentandra, Dendrocalamus strictus, Dillenia pentagyna, Diospyros montana, Madhuca latifolia, Mangifera indica, Nyctanthus arbor-tristis, Pterocarpus marsupium, Sterculia urens, Tectona grandis and *Vitex negundo*.

6. Dyes and Tannins (16)

Acacia nilotica, Acacia pinnata, Butea monosperma, Casearia graveolens, Dalbergia latifolia, Dendropthoe falcata, Ficus hispida, Mitragyna parviflora, Mollugo pentaphylla, Nyctanthus arbor-tristis, Phylanthus emblica, Syzygium heyneanum, Terminalia arjuna, Terminalia bellirica, Terminalia chebula and Woodfordia fruticosa.

7. Fencing, Hedge and Protection (7)

Bambusa arundinacea, *Bauhinia vahlli*, *Clerodendrum serratum*, *Dendrocalamus strictus*, *Jatropha curcas*, *Ipomea fistulosa* and *Phoenix acaulis*.

8. Fishing and Hunting (10)

Acacia pinnata, *Bambusa arundinacea*, *Casearia graveolens*, *Cleistanthus collinus*, *Dendrocalamus strictus*, *Dioscorea hispida*, *Diospyros montana*, *Ichnocarpus fruitescens*, *Millettia extensa* and *Pithecelobium dulce.*

9 Fodder (38)

Acacia nilotica, *Albizia odoratissima*, *Amaranthus viridis*, *Annona squamosa*, *Apluda mutica*, *Bambusa arundinacea*, *Bauhinia variegata*, *Boerhavia diffusa*, *Bombax ceiba*, *Butea monosperma*, *Capparis zeylanica*, *Cassia fistula*, *Cassia tora*, *Ceiba pentandra*, *Cynodon dactylon*, *Dendrocalamus strictus*, *Desmodium pulchellum*, *Diospyos melanoxylon*, *Feronia limonia*, *Ficus benghalensis*, *Ficus religiosa*, *Grewia hirsuta*, *Holoptelea integrifolia*, *Ischaemum pillosum*, *Lagerstoemia parviflora*, *Madhuca latifolia*, *Mangifera indica*, *Phylanthus emblica*, *Pithecelobium dulce*, *Schleichera oleosa*, *Syzygium cumini*, *Syzygium heyneanum*, *Terminalia bellirica*, *Tribulus terrestris*, *Woodfordia fruticosa*, *Wrightia tinctoria*, *Ziziphus mauritiana* and *Ziziphus nummularia.*

10. Fuel (45)

Abelmoschus manihot, *Acacia catechu*, *Acacia leucophloea*, *Acacia nilotica*, *Ailanthus excelsa*, *Albizia lebbeck*, *Albizia odoratissima*, *Albizia procera*, *Anogeissus latifolia*, *Antidesma ghassembilla*, *Bambusa arundinacea*, *Bauhinia variegata*, *Bombax ceiba*, *Boswellia serrata*, *Bridelia retusa*, *Buchanania lanzan*, *Butea monosperma*, *Careya arborea*, *Cassia fistula*, *Cassia tora*, *Ceiba pentandra*, *Cordia dichotoma*, *Dalbergia latifolia*, *Dalbergia paniculata*, *Dendrocalamus strictus*, *Diospyos melanoxylon*, *Feronia limonia*, *Flacourtia indica*, *Helicteres isora*, *Holoptelea integrifolia*, *Kydia calycina*, *Lantana camara*, *Mallotus phillipensis*, *Mangifera indica*, *Mitragyna parviflora*, *Pterocarpus marsupium*, *Schleichera oleosa*, *Syzygium cumini*, *Tectona grandis*, *Terminalia arjuna*, *Terminalia bellirica*, *Terminalia chebula*, *Vitex negundo* and *Woodfordia fruticosa*.

11. Furniture, House Building, Tools and Implements (28)

Acacia catechu, *Acacia nilotica*, *Albizia lebbeck*, *Albizia procera*, *Anogeissus latifolia*, *Azadirachta indica*, *Bambusa arundinacea*, *Bauhinia vahlli*, *Bauhinia variegata*, *Boswellia serrata*, *Buchanania lanzan*, *Careya arborea*, *Dalbergia latifolia*, *Dalbergia paniculata*, *Dendrocalamus strictus*, *Diospyros melanoxylon*, *Grewia tilaefolia*, *Kydia calycina*, *Lagerstoemia parviflora*, *Miliusa tomentosa*, *Mitragyna parviflora*, *Phoenix acaulis*, *Schleichera oleosa*, *Soymida febrifuga*, *Tectona grandis*, *Terminalia arjuna*, *Terminalia bellirica* and *Terminalia chebula*.

12. Socio-religious and sacred purposes (21)

Aegle marmelos, *Annona squamosa*, *Buchanania lanzan*, *Calotropis gigantea*, *Cynodon dactylon*, *Cyperus rotundus*, *Datura metel*, *Datura stramonium*, *Diospyos melanoxylon*, *Ficus benghalensis*, *Ficus religiosa*, *Mallotus phillipensis*, *Mangifera indica*,

Melia azedarach, *Nyctanthus arbor-tristis*, *Phoenix acaulis*, *Pithecelobicum dulce*, *Syzygium cumini*, *Woodfordia fruticosa*, *Ziziphus mauritiana* and *Ziziphus nummularia*.

13. Medicinal Plants

During the field survey work, information regarding the use of plants for treatment of various diseases was gathered from local villages. The information is given below with name of plants, local names and uses.

- *Abrus precatorius* (Ghumachi): Seeds are used as purgative and abortifacient.
- *Abutilon indicum* (Kanghi): Seeds are used as laxative and in piles. Leaves are locally applied on ulcers and boils.
- *Acacia catechu* (Khair): Bark of the tree is used in chronic diarrhoea.
- *Acacia nilotica* (Babul): The twig of the plant is used as natural tooth brush. Extract of fresh bark is used as tonic and gum is used as powerful tonic after delivery.
- *Acanthospermum hispidum* (Bichhiya Kanta): Plant is used in scorpion sting.
- *Achyranthes aspera* (Apamarg): Twigs are used in tooth ache. Roots of the plant are tied to women for easy delivery of baby. Leaves are used in scorpion sting and in skin eruptions.
- *Acorus calamus* (Bach): The paste of rhizome is given to cure stammering in children at least up to 90 days.
- *Adhatoda vasica* (Vasaka): The decoction of leaves is given to cure asthma and other bronchial troubles.
- *Aegle marmelos* (Bel): Fruits are used in dysentery and diarrhoea. Bark is used in intermittent fever.
- *Aloe vera* (Gwarpatha): The peelings of the leaves are used in skin burn. The gel of the plant is given orally in ulcers and the fleshy part is also used in facial creams.
- *Alpinia galanga* (Kulanjan): Rhizomes are used in bronchial troubles, cough and cold.
- *Andrographis paniculata* (Kalmegh): The plant is used for malarial fever (fever with chills) and as liver tonic.
- *Anisomelos indica* (Bhandari): The leaves of the plant are used in cough and cold.
- *Annona squamosa* (Sitaphal): The leaves are used to reduce blood sugar. The oil of seed is used to kill lice.
- *Anogeissus latifolia* (Dhawra): Leaves are used in diarrhoea. Gum is used as tonic.

- *Argemone mexicana* (Pili Katari): The extract of stem and leaves is used in various skin diseases. The latex is applied in eyes in case of conjunctivitis. The root-powder is mixed with sugar and taken orally with water when affected with skin diseases.

- *Argyreia speciosa* (Samudrasokh): Leaves are used in boils. Roots are used as tonic.

- *Asparagus racemosus* (Satavar): The root powder is used to increase vigour and strength. The root powder is also used to increase lactation and reduce body pain in women. Root-powder is used to increase vigour and strength.

- *Azadirachta indica* (Neem): Seed oil is used in skin diseases and for killing lice. Bark is useful in malarial fever. Tender twigs are used as toothbrush. Seeds are used in skin diseases, and in rheumatism. Bark is useful in malarial fever. Dry fruits are used as tonic and stomachic. Tender twigs are used as tooth-brush.

- *Bauhinia variegata* (Kachnar): Bark is used in skin diseases. Pod is used in diarrhoea.

- *Berberis aristata* (Daruhaldi): Root is used as purgative and tonic. Plant is used in abdominal disorders and in inflammation. Root-bark extract is used to heal ulcer.

- *Boerhaavia diffusa* (Punarnava): Plant is used in jaundice, urinary troubles and in skin diseases.

- *Boswellia serrata* (Salai): Gum is used as tonic. It is considered as diuretic and useful in skin diseases.
- *Bryonia laciniosa* (Shivlingi): Seeds are used to cure sterility in women.

- *Butea monosperma* (Palas) :Seeds are used to cure ringworms. Petioles are chewed during heat in urination.

- *Caesalpinia crista* (Gataran): The seed powder is used in stomach disorders.

- *Calotropis procera* (Aak, Madar): Used in boils, and also to remove thorns from body. The latex of plant is applied to remove thorns from the body and also in boils.

- *Cassia tora Linn.* (Titi, Chakoda) : Powder of the dry seeds is used in asthma. The powder is mixed with gud (2-3-year old) and about 7 small balls are prepared. One ball is taken every day with water upto 7 days. The seed paste is applied in skin diseases.

- *Catharanthus roseus* (Sadabahar): The leaves and white flowers are used to reduce sugar level. 2-3 leaves/flowers per day are taken early in the morning.

- *Celastrus paniculatus* (Malkangni): Massage of the seed oil is done on joints to relieve pain.
- *Centella asiatica* (Bramhi): The leaves are used to improve memory.

- *Chlorophytum* tuberosum (Safed Musli): The roots of the plant are used for general weakness, as tonic and aphrodisiac.

- *Cissampelos pariera* (Karu Pahad): The root of the plant is used in snakebite. The root decoction is also used in diarrhoea, snake bite and urinary troubles.

- *Cissus quadrangularis* (Harjori): The paste of the stem is used to join bone fractures.

- *Citrullus colocynthis* (Indrayan): Fruits and seeds are purgative, used in jaundice, piles, urinary diseases and in rheumatism. The fruits are used in stomach troubles.

- *Clitoria ternata* (Aparajita): The root of the plant is used to remove stone in gall bladder.

- Cocculus hirsutus Diels. (Jal Jamani) : The leaves are useful to cure leucorrhoea.

- *Costus speciosus* (Keokand): Rhizomes are used in rheumatic pains. Used in skin and respiratory diseases.

- *Curculigo orchoides* (Kali Musli): Roots are used as tonic and aphrodisiac; in leucorrhoea and menstrual irregularities.

- *Curcuma angustifolia* (Tikhur): The tubers are considered as good source of starch.

- *Curcuma aromatica* (Jangli haldi): The rhizomes are used in common cold and in digestion.

- *Curcuma caesia* (Kali Haldi): Rhizomes are used in sprains, bruises and internal injuries and also used for socio religious and sacred purposes.

- *Cuscuta reflexa* (Amarbel): The extract of the plant is used in white spots and in dandruff. The extract of the plant is applied to get rid of dandruff.

- *Cyperus scariosus* (Nagarmotha): The tubers are used in urinary and heart troubles.

- *Datura metal* (Dhatura): Smoke of seeds is inhaled in bronchial troubles.

- *Dioscorea demona* (Baichandi): The tribals eat the tubers. It is considered as tonic and aphrodisiac.

- *Diospyros melanoxylon* (Tendu): Bark of the tree is used in diarrhoea. Dried flowers are useful in skin and urinary diseases.

- *Eclipta alba* (Bhringraj): Paste/powder of leaves is applied with oil to reduce graying of hairs and hair loss.

- *Emblica officinalis* (Amla): Fruits are used for digestion and as tonic. It is considered to be a good blood purifier. Powder of fruits is used to cure dandruff.

- *Evolvulus alsinoides* (Sankhpushpi): The plant is used to improve memory and in mental diseases.

- *Gloriosa superba* (Kalihari): The rhizome of the plant is used in scorpion sting and snake bite. It is also used as abortifacient.

- *Gymnema sylvestre* (Gurmar): The leaves of the plant are used in diabetes.

- *Hedychium spicatum* (Kapur Kachri): Rhizome is used in stomach ache. It is also used in cough and diarrhoea.

- *Helicteres isora* (Marodphalli): Fruits are used in dysentery and stomach pains, diabetes and in skin diseases.

- *Hemidesmus indicus* (Anantmool): Roots are used in urinary troubles and in ulcers.

- *Hollorrhena antidysentrica* (Kutaj): Seeds and bark: anthelmintic, antidysentric, astringent, bitter, carminative and used in bleeding piles. Bark is used in colitis.

- *Hyptis suaveolens* (Ban Tulsi): Seed oil is applied on chest in cold.

- *Mallotus philippensis* (Kamla): The powder from the exterior of the fruits is used for roundworms.

- Mangifera indica Linn. (Aam) : The leaves are used in eruptions of the tongue.

- *Mitragyna parviflora* (Mundi): Bark of the tree is used in fever and cold.

- *Moringa oleifera* (Sahnjana): The paste of the leaves is applied externally on wounds. The juice of the leaves is used in eye diseases.

- *Mucuna pruriens* (Kewanch): The seeds are used as aphrodisiac and in male sterility.

- *Nyctanthus arbortistis* (Harsingar): The leaves are used in fever and rheumatism.

- Ocimum sanctum Linn. (Tulsi) The leaves are used against skin diseases. The leaves are used to cure cough and cold and also to cure boils and ulcers. The seeds are used as aphrodisiac.

- *Phyllanthus amarus* (Bhuiamla): Juice of whole plants is used for the treatment of jaundice. One tea spoon juice is taken three time in a day for four to five days.

- *Plumbago zeylanica* Linn. (Chitrak) The seeds are powdered and applied on boils and carbuncles.

- *Pongamia pinnata* (Karanj): The seed oil is applied on skin eruptions and eczema.

- *Pterocarpus marsupium* (Bija Sal): The water extract of the wood of the tree is used in diabetes.

- *Ruta graveolens* (Sitab): The juice of leaves is used as carminative. The herb is planted near the houses to repel snakes.

- *Semecarpus anacardium* Linn. (Bhilwa): The oil of seeds is applied on the painful spot. The seed oil is applied with the help of pointed needle in case of pain in joints.

- *Sida acuta* (Mahabala)*:* The plant is used in treatment of snakebite, rheumatism, fever and as tonic.

- *Sida cordifolia* (Bala): The plant is used as anti-rheumatic and antipyretic drugs.

- *Sida rhombifolia* (Atibala): Used in tuberculosis, rheumatism and as antidote to snake venom.

- *Solanum nigrum* (Makoy): Used in skin diseases.The leaves are used in skin diseases and jaundice.

- *Sphaeranthus indicus* (Gorakh mundi): The plant is used as aphrodisiac.

- *Syzygium cumini* L. (Jamun): Seed-powder is useful in diarrhoea, dysentery and diabetes. Bark is used for mouth washes.

- *Terminalia arjuna* (Arjun or Kahua): The decoction of the bark is used in heart troubles. The bark gives strength to the heart.

- *Terminalia bellerica* Roxb. (Beheda): Epicarp of fruit mixed with Harra is useful in digestion. Seeds mixed with *Buchanania* seeds are taken in eruption of mouth.

- *Terminalia chebula* Retz. (Harra): Fruit powder is used for the preparation of digestive powder.

- *Tinospora cordifolia* (Amrita or Giloe): The juice of stem is taken orally as tonic. After long illness, the juice of the plant removes the weakness along with side effects of antibiotics. Juice with sugar is good after malarial and typhoid fever.

- *Tribulus terrestris* (Chhota Gokhru): The fruits are used as aphrodisiac.

- *Tridex procumbens* (Barahmasi): The juice of the plant is applied on cuts as antiseptic.

- *Tylophora indica* (Antamool): The leaves are taken orally in asthma.

- *Urginea indica* (Jangli pyaj): The juice of the bulb is used in respiratory disorders.

- *Ventilago caliculata* (Keoti): The bark of the plant is used in diabetes. Seed oil is used in rheumatic pain.

- *Verbascum thapsus* Linn.(Gidad Tambakhu) Used for skin diseases.

- *Vitex negundo* (Nirgundi): The extract of the leaves is used in body pain and in skin diseases.

- *Withania somnifera* (Aswagandha): The root powder is taken with milk to remove weakness and improve vigour.

Plants used by tribal communities residing near sacred groves have been grouped into twelve different ethnobotanical categories. Wild Edible Plants (143), Agricultural Implements (114), Basketry Work (14), Decoration (8), Defense Equipments (16), Dyes and Tannins (16), Fencing, Hedge and Protection (7), Fishing and Hunting (10), Fodder (38), Fuel (45), Furniture, House Building, Tools and Implements (28), Socio-Religious and Sacred Purpose (21). The ethno botanical diversity of tribal groups near different sacred groves was recorded and categorised. 176 medicinal plants used by different tribal groups near sacred groves were also documented. A list of medicinal plants used for particular ailments was prepared. Thus, it was observed that these people have firm faith in medicinal plants to cure various diseases from fever to cancer. However, the knowledge about the application of these medicinal plants is not revealed by these tribesmen, as they do not want their inherited knowledge to be known by the outside world (Fig. – 10).

STATUS OF ENDEMIC, RARE AND THREATENED MEDICINAL PLANTS

Inventory of endemic, rare and threatened medicinal plants has been prepared on the basis of seasonal survey and available field informations. IUCN red list category and threat assessment methods for evaluating the status of medicinal plants have been followed as per threat area. No endemic medicinal plant species was identified from the sacred groves. 14 vulernable species, 1 endangered species and 1 near threatened species were identified during the survey. Status of endemic, rare and threatened medicinal plants in all Sacred Groves is presented in the following **Table – 11** with names of plant species, families and threat status of the species. Data sheets of all threatened species have been prepared and given accordingly.

Table – 11: Red list categories of medicinal plants

S. No.	NAME OF SPECIES	FAMILY	THREAT STATTUS
1.	*Andrographis paniculata (Burm. F) Wall.*	Acanthaceae	VU
2.	*Bacopa monnieri (L) Wettst.*	Scrophulariaceae	VU
3.	*Bauhinia vahlii W. & A.*	Caesalpiniaceae	NT
4.	*Centella asiatica (L) Urban.*	Apiaceae	VU
5.	*Costus speciosus L.*	Zingiberaceae	VU
6.	*Curcuma zedoaria (Christ) Roscoe*	Zingiberaceae	VU
7.	*Embelia tesjeriam-cotton*	Euphorbiaceae	VU
8.	*Equisetum ramosissimum Desf.*	Equisetaceae	EN
9.	*Gloriosa superba L.*	Liliaceae	VU
10.	*Gymnema sylvestre R.Br.*	Asclepiadaceae	VU
11.	*Litsea glutinosa (Lour) C. B. Robins*	Lauraceae	VU
12.	*Nervilia plicata (Andr.) Schlechter*	Orchidaceae	VU
13.	*Phyllanthus emblica Gaertn*	Euphorbiaceae	VU
14.	*Pterocarpus marsupium Roxb.*	Fabaceae	VU
15.	*Thalictrum foliolosum DC.*	Ranunculaceae	VU
16.	*Uraria picta (Jacq) Desv.ex.DC*	Fabaceae	VU

DATA SHEET – 1

Botanical name		***Andrographis paniculata (*Burmf.) Wall. ex Nees**							
Basionys/Synonym(s)		Kalmegh, Kaduchirayta, Bhuineem							
Family		**Acanthaceae**							
Taxonomic status		Species							
Vernacular names		Karuchirayata, Kalmegh, Bhuineem							
Habit		Herb							
Habitat		Tropical deciduous forest							
Original global distribution		India, tropical countries							
Current regional distribution		Through out the state							
Elevation range (M)		300-900							
Population reduction (pl. tick in appropriate cell)		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**				
			√						
Time/Rate(Year/generation)		10 years							
Extend of occurrence (EOO)		Km^2	<20,000						
Area of occurrence (AOO)		Km^2	<2,000						
No. of location /Sub-Population		Many							
Data quality		3,4							
Threads		E (Edaphic factors), Hm (Harvest for medicine), T (Trade), Sd (Drought)							
Trade	**Names**								
	Level(S)	Local	√	Regional	√	National	√	Global	√
	Part traded	Whole plant							
	Effect of population	Declining							
	Data quality	3,4							
Other comments		Whole plant in useful. Therefore sustainable harvest is proposed.							
Recent field of studies		• Ministry of Health and Family welfare, • Govt. of India, • DISM, • WHO-Demand study for selected medicinal plants, 2001-2002.							
Status									
- CITIES		-							
- Legislation		-							
- Criteria based on		A2cd							
- IUCN		VU							
% of global distribution		1%							
Existing conservation measure		-							
Is the presence of taxon continuous with neighboring areas		Yes							
Are the outside population also under similar threads		Yes							

/pressure	
Recommendations	
Research /Management	Biotic impact, Regeneration/Sustainable harvesting technique.
a. i*n-Situ*	
b. *ex–Situ*	
i) Cultivation	Under trials
ii) Levels of difficulty in propagation / cultivation	1 (Least difficult)
Existing cultivation	An *ex-situ* cultivation by the farmers have been started
Previous assessment	Yes. Previous CAMP

DATA SHEET – 2

Botanical name		*Bacopa monnieri* (L.) Wettst.							
Basionys/Synonym(s)		*Lysimachia monnieri* L.							
Family		Scrophulariaceae							
Taxonomic status		Species							
Vernacular names		Bramhi, Jal Brachmi, Jal Neem.							
Habit		Prostrate herb, rooting at the nodes.							
Habitat		Marshy wet places near lakes and ponds.							
Original global distribution		Throughout India, Ceylon, Malaya and all the tropical/sub tropical region of the world.							
Current regional distribution		• Bhopal (Lower lake 74 Baungalows), • Vidisha (Lateri).							
Elevation range (M)		400-600							
Population reduction (pl. tick in appropriate cell)		<30%	30 to 49%	50 to 80%	>80%				
			√						
Time/Rate(Year/generation)		10 years							
Extend of occurrence (EOO)		Km^2	>2000						
Area of occurrence (AOO)		Km^2	>200						
No. of location /Sub-Population		4 District							
Data quality		2, 4							
Threads		Hm							
Trade	Names	Bramhi							
	Level(S)	Local		Regional		National	√	Global	
	Part traded	Whole plant							
	Effect of population	Declining							
	Data quality	2, 4							
Other comments		The stalks and leaves used medicinally in rheumatism, gonorrheal and also taken as nerving tonic.							
Recent field of studies		• Department of Botany, Sarojini Naidu Govt. girls P.G. College, Shivaji Nagar, Bhopal 2005.							
Status									
- CITIES		-							
- Legislation		-							
- Criteria based on		A2cd							
- IUCN		VU							
% of global distribution		<1%							
Existing conservation measure									
Is the presence of taxon continuous with neighboring areas		Yes							
Are the outside population also under similar threads /pressure		Yes							

Recommendations	
Research /Management	
a. i*n-Situ*	√
b. *ex–Situ*	Tissue Culture, vegetation propagation by cutting.
i) Cultivation	Should be cultivated
ii) Levels of difficulty in propagation / cultivation	
Existing cultivation	Nil
Previous assessment	Nil

DATA SHEET – 3

Botanical Name		*Bauhinia vahlii* Wt. & Arn.						
Basionys/Synonym(s)		*Phanera vahlii* (Wt. & Arn.) Benth.						
Family		Caesalpiniaceae						
Taxonomic status		Species						
Vernacular names		Mahul, Mohalla, Siali.						
Habit		Liana (woody climber)						
Habitat		Mixed forest, Sal forest.						
Original global distribution		Throughout Madhya Pradesh.						
Current regional distribution		• Rewa (Pachmattha), • Damoh (Rani Durgavati Sanctuary), • Sagar (Bandri, Rehli, Garhpara).						
Elevation range (M)		400-800						
Population reduction (pl. tick in appropriate cell)		<30%	30 to 49%	50 to 80%	>80%			
		√						
Time/Rate(Year/generation)		3 Generations						
Extend of occurrence (EOO)		Km^2	>22000					
Area of occurrence (AOO)		Km^2	>2000					
No. of location /Sub-Population		100-500						
Data quality		2, 3						
Threads		H, Hp, L, Lf, Lp, Sf, Tp.						
Trade	Names	Mahil						
	Level(S)	Local	√	Regional	√	National		Global	
	Part traded	Leaf, root, stem						
	Effect of population	Declining						
	Data quality	2, 3						
Other comments		Vermifuge. Fruits used as ashrodie. Seeds in dysentery and stomachache. Bark used as fiber making rope.						
Recent field of studies		• P.C. Dubey & A.P. Tiwari, • Vindhyan Medicinal plants 2005, • Department of forest, Madhya Pradesh.						
Status								
- CITIES		-						
- Legislation		-						
- Criteria based on		A2cd						
- IUCN		NT						
% of global distribution								
Existing conservation measure		Nil						
Is the presence of taxon continuous with neighboring areas								
Are the outside population also		Yes						

under similar threads /pressure	
Recommendations	
Research /Management	
a. i*n-Situ*	√
b. *ex–Situ*	
i) Cultivation	√
ii) Levels of difficulty in propagation / cultivation	Regeneration problem
Existing cultivation	Nil
Previous assessment	Nil

DATA SHEET – 4

Botanical name		*Centella asiatica* (L.) Urban.							
Basionys/Synonym(s)		*Hydrocoptyle asiatica* L.							
Family		Apiaceae							
Taxonomic status		Species							
Vernacular names		Bramhi, Mandukparni, Brahm manduki.							
Habit		Slender herbaceous, rooting at the nodes.							
Habitat		Moist places..							
Original global distribution		Throughout India, Base of Himalaya, Ceylon, Malaya and all the tropical/sub tropical region of the world.							
Current regional distribution		• Bhopal (Moti Maszid), • Raisen (Halali Dam), • Bhopal (Bhadbhada).							
Elevation range (M)		400-600							
Population reduction (pl. tick in appropriate cell)		<30%	30 to 49%	50 to 80%	>80%				
			√						
Time/Rate(Year/generation)		10 years							
Extend of occurrence (EOO)		Km^2	>2000						
Area of occurrence (AOO)		Km^2	>200						
No. of location /Sub-Population		3 District							
Data quality		2, 4							
Threads		Hm, T							
Trade	Names	Bramhi							
	Level(S)	Local		Regional	√	National	√	Global	
	Part traded	Whole plant							
	Effect of population	Declining							
	Data quality	2, 4							
Other comments		As brain tonic. In skin diseases, Trberculosis, Anemia, Asthma, Madness, Cholera, heat effect, wound healing.							
Recent field of studies		• Department of Botany, • Sarojini Naidu Govt. girls P.G. College, • Shivaji Nagar, Bhopal 2005.							
Status									
- CITIES		-							
- Legislation		-							
- Criteria based on		A2cd							
- IUCN		VU							
% of global distribution		<2%							
Existing conservation measure									
Is the presence of taxon continuous with neighboring areas		Yes							

Are the outside population also under similar threads /pressure	Yes
Recommendations	
Research /Management	
a. i*n-Situ*	Management needed.
b. *ex–Situ*	Vegetative propagation.
i) Cultivation	
ii) Levels of difficulty in propagation / cultivation	
Existing cultivation	Nil
Previous assessment	Nil

DATA SHEET – 5

Botanical name		*Costus speciosus* (J. Koenig ex Retz.) Sm.						
Basionys/Synonym(s)		*Banksea speciosa* J. Koenig						
Family		Costaceae						
Taxonomic status		Species						
Vernacular names		Keokanda						
Habit		Herb						
Habitat		Sal forest and deforested lands in shady places						
Original global distribution		India, SriLanka, SE Asia, Africa, Australiya.						
Current regional distribution		• Balaghat, • Hoshangabad, • Damoh, • Sidhi, • Rewa, • Mandla, • Seoni, • Dindori.						
Elevation range (M)		200-1000						
Population reduction (pl. tick in appropriate cell)		<30%	30 to 49%	50 to 80%	>80%			
			√					
Time/Rate(Year/generation)		10 Years						
Extend of occurrence (EOO)		Km^2	>20,000					
Area of occurrence (AOO)		Km^2	>2,000					
No. of location /Sub-Population		Wide distribution.						
Data quality		3, 4						
Threads		Hm, Tp, Hf.						
Trade	Names	Keo-kanda						
	Level(S)	Local	√	Regional	√	National	√	Global
	Part traded	Rhizome						
	Effect of population	Declining						
	Data quality	3, 4						
Other comments		Seed information becomes scanty due to early harvesting.						
Recent field of studies		Tiwari *et.al.*2002-2003 Shrivastava, O.L. & Sumita Shrivatava, 1997-99 SFRI publication, 1990-2000.						
Status								
- CITIES		-						
- Legislation		-						
- Criteria based on		A2cd						
- IUCN		VU						

20.	% of global distribution	<5%
21.	Existing conservation measure	Nil
22.	Is the presence of taxon continuous with neighboring areas	Yes
23.	Are the outside population also under similar threads /pressure	Yes
24.	Recommendations	
	Research /Management	Multiplication in protected area, Sustainable harvesting techniques, Seed biology, Growth behavior.
	a. i*n-Situ*	Mandla.
	b. *ex–Situ*	
	i) Cultivation	Experimentation on agronomy as well as fertilizers.
	ii) Levels of difficulty in propagation / cultivation	1 (Least difficult)
25	Existing cultivation	Yes (<1%)
26.	Previous assessment	

DATA SHEET – 6

Botanical name		*Curcuma zedoaria* (Christ.) Roscoe.							
Basionys/Synonym(s)		*Amomum zedoria*							
Family		Zingiberaceae							
Taxonomic status		Species							
Vernacular names		Narakchur							
Habit		Annual shrub							
Habitat		Undergrowth in moist deciduous forests							
Original global distribution		Paleotropic							
Current regional distribution		• Betul, • Hoshangabad, • Chindwara, • Shahdol.							
Elevation range (M)		Up to 600							
Population reduction (pl. tick in appropriate cell)		<30%		30 to 49%		50 to 80%		>80%	
				√					
Time/Rate(Year/generation)		10 Years							
Extend of occurrence (EOO)		Km^2	>20,000						
Area of occurrence (AOO)		Km^2	>2,000						
No. of location /Sub-Population		Fragmented.							
Data quality		2, 3, 4							
Threads		Hm, Tp, Sf, Sd.							
Trade	Names	Narakchur							
	Level(S)	Local	√	Regional	√	National	√	Global	√
	Part traded	Tuber (Oil)							
	Effect of population	Declining (Over 80% decline in last 30 years.)							
	Data quality	2, 3, 4							
Other comments		-							
Recent field of studies		Oudhai, P. 2003. www.botanical.com							
Status									
- CITIES		-							
- Legislation		-							
- Criteria based on		A2cd							
- IUCN		VU							
% of global distribution		<1%							
Existing conservation measure		Nil							
Is the presence of taxon continuous with neighboring areas		Yes							
Are the outside population also under similar threads /pressure		Yes							
Recommendations									
Research /Management		Hm (Habitat management.)							

a. i*n-Situ*	• Jagdalpur (Near), • Kewchp-Lamni (Bilaspur).
b. *ex–Situ*	-
i) Cultivation	2
ii) Levels of difficulty in propagation / cultivation	1 (Least difficult)
Existing cultivation	Nil
Previous assessment	

DATA SHEET – 7

Botanical name		*Embelia tsjeriam-cottam* DC.							
Basionys/Synonym(s)		*Embelia robusta* C.B. Clarke non-Roxb.							
Family		Myrsinaceae							
Taxonomic status		Species							
Vernacular names		Bailbirang, Vidayng, Vaividang.							
Habit		Shrub							
Habitat		In mixed deciduous forests							
Original global distribution		Indo Malayan region.							
Current regional distribution		Through out.							
Elevation range (M)		200-1000							
Population reduction (pl. tick in appropriate cell)		<30%		30 to 49%		50 to 80%		>80%	
				√					
Time/Rate(Year/generation)		3 Generations							
Extend of occurrence (EOO)		Km^2	>20,000						
Area of occurrence (AOO)		Km^2	>2,000						
No. of location /Sub-Population		>500 locations							
Data quality		2, 3, 4							
Threads		Hm, T, Sf, L.							
Trade	Names	Baibirang							
	Level(S)	Local	√	Regional	√	National	√	Global	√
	Part traded	Seeds							
	Effect of population	Declining							
	Data quality	2, 3, 4							
Other comments		Sustainable harvesting should be promoted.							
Recent field of studies		• Asolkar, Kakkar & Chakre, 1965-1981. Glossary of Indian medicinal plants with active principles. Part 1., • MHFW & H, 2001-02, Vol. I.							
Status									
- CITIES		-							
- Legislation		-							
- Criteria based on		A2cd							
- IUCN		NT							
% of global distribution		>30%							
Existing conservation measure		-							
Is the presence of taxon continuous with neighboring areas		Yes							
Are the outside population also under similar threads /pressure		Yes							

Recommendations	
Research /Management	Hm (Habitat management.), S (Survey, search and find.)
a. i*n-Situ*	Amarkantak.
b. *ex–Situ*	-
i) Cultivation	3
ii) Levels of difficulty in propagation / cultivation	2 (Moderately difficult)
Existing cultivation	-
Previous assessment	-

DATA SHEET – 8

Botanical name		*Equisetum ramosissimum* Desf.							
Basionys/Synonym(s)		*Equisetem debile* Roxb. Ex Vauch.							
Family		Equisetaceae							
Taxonomic status		Species							
Vernacular names		Medju, Maringir							
Habit		Large herb							
Habitat		Shady damp areas, in sandy alluvial humus soil lower elevation.							
Original global distribution									
Current regional distribution		• Hoshangabad (Malakhedi), • Shahdol (Dughadhara, • Mandla (Mawai), • Rewa (Bouti).							
Elevation range (M)		300-800							
Population reduction (pl. tick in appropriate cell)		<30%	30 to 49%	50 to 80%	>80%				
				√					
Time/Rate(Year/generation)		10 Years							
Extend of occurrence (EOO)		Km^2	>20,000						
Area of occurrence (AOO)		Km^2	>2,000						
No. of location /Sub-Population		4							
Data quality		2, 3, 4							
Threads		E, Hm, L, Encroachment for cultivation. Collection for academic purposes.							
Trade	Names								
	Level(S)	Local		Regional	√	National	√	Global	
	Part traded	Whole plant, Rhizome and stem as teaching aid (Lab) material.							
	Effect of population	Declining							
	Data quality	2, 3, 4							
Other comments		Used as antidote for snake, scorpion and insect bites.							
Recent field of studies		Upadhyaya *et al.* 2004, Sharma 2004, Masih 1994.							
Status									
- CITIES		-							
- Legislation		-							
- Criteria based on		A2cd							
- IUCN		EN							
% of global distribution		<1%							
Existing conservation measure		No							

Is the presence of taxon continuous with neighboring areas	Yes
Are the outside population also under similar threads /pressure	Yes
Recommendations	
Research /Management	S, Lr, Hm, M.
a. i*n-Situ*	√
b. *ex–Situ*	Can be done
i) Cultivation	Nil
ii) Levels of difficulty in propagation / cultivation	Nil
Existing cultivation	-
Previous assessment	-

DATA SHEET – 9

Botanical name		*Glorisa superba* L.							
Basionys/Synonym(s)		*Methonia superba* Lamk.							
Family		Liliaceae							
Taxonomic status		Species							
Vernacular names		Kalihari, Karkari, Langali, Glori lily.							
Habit		Climbing herb							
Habitat									
Original global distribution		Through out tropical Asia and Africa.							
Current regional distribution		• Hoshangabad, • Burhanpur, • Betul, • Moist district.							
Elevation range (M)		280-500							
Population reduction (pl. tick in appropriate cell)		<30%	30 to 49%	50 to 80%	>80%				
			√						
Time/Rate(Year/generation)		10 Years.							
Extend of occurrence (EOO)		Km^2	>5,000						
Area of occurrence (AOO)		Km^2	>2,000						
No. of location /Sub-Population		18							
Data quality		2, 3, 4							
Threads		Hm, T, Sd, L, Sf.							
Trade	Names	Kalihari, Karkari, Langali.							
	Level(S)	Local	√	Regional	√	National	√	Global	√
	Part traded	Rhizome, Seeds.							
	Effect of population	Declining (10 % decrease in last 10 years; 20% decrease expected in next 10 years.)							
	Data quality	2, 3, 4							
Other comments		-							
Recent field of studies		• A.K. Bahttacharya & Krishna Patra- MPMFP Federation publication, • Oudhai P. 2003. www.botanical.com							
Status									
- CITIES		-							
- Legislation		-							
- Criteria based on		A2cd							
- IUCN		VU							
% of global distribution		<1%							
Existing conservation measure		No substantial cultivation.							

Is the presence of taxon continuous with neighboring areas	Yes
Are the outside population also under similar threads /pressure	Yes
Recommendations	
Research /Management	Hm (Habitat management.), S (Survey, search and find.), M (Monitoring).
a. i*n-Situ*	-
b. *ex–Situ*	-
i) Cultivation	3
ii) Levels of difficulty in propagation / cultivation	1 (Least difficult)
Existing cultivation	-
Previous assessment	-

DATA SHEET – 10

Botanical name		*Gymnema sylvestre* R. Br.							
Basionys/Synonym(s)		*Periploca sylvestris* Retz.							
Family		Asclepiadaceae							
Taxonomic status		Species							
Vernacular names		Gurmar, Merasingi.							
Habit		Large climber							
Habitat		In sal and mixed deciduous forests							
Original global distribution		Paleotropic.							
Current regional distribution		• Hoshangabad, • Chattarpur, • Betul, • Damoh, • Khandwa, • Jabalpur, • Narsinhpur, • Rewa, • Satar, • Sehore.							
Elevation range (M)		Up to 450							
Population reduction (pl. tick in appropriate cell)		<30%	30 to 49%	50 to 80%	>80%				
		√							
Time/Rate(Year/generation)		10 Years.							
Extend of occurrence (EOO)		Km^2	>20,000						
Area of occurrence (AOO)		Km^2	>2,000						
No. of location /Sub-Population		13							
Data quality		2, 4							
Threads		Hm, T, Ov (Over harvesting), Sf, Lf (Loss of habitat-Fragmentation), Lp (Loss of habitat- Quality).							
Trade	Names								
	Level(S)	Local	√	Regional	√	National	√	Global	√
	Part traded	Wole plant.							
	Effect of population	Declining							
	Data quality	3, 4							
Other comments		• This species have good trade, • Used in anti-diabetic medicines.							
Recent field of studies		• Tiwari R.K.S. & S.S. Chandrawanshi, 2003. "Technical bulletin on medicinal plants cultivation and uses". IGNU • Bhattacharya P. 2003. "Training manual on medicinal plants- strategies for conservation practices". IIFM, Bhopal.							

Status	
- CITIES	-
- Legislation	-
- Criteria based on	A2cd
- IUCN	VU
% of global distribution	1%
Existing conservation measure	*In situ* conservation in Peoples Protected Area.
Is the presence of taxon continuous with neighboring areas	Yes
Are the outside population also under similar threads /pressure	Yes
Recommendations	
Research /Management	In RDF W.C multi tier plantations.
a. i*n-Situ*	-
b. *ex–Situ*	-
i) Cultivation	3
ii) Levels of difficulty in propagation / cultivation	3 (Very difficult), Propagation is difficult, only 25% success.
Existing cultivation	-
Previous assessment	-

DATA SHEET – 11

Botanical name		*Litsea glutinosa* (Lour.) C. B. Robinson.							
Basionys/Synonym(s)		*Litsea sebifera* Pers. *Sebifera glutinosa* Lour.							
Family		Louraceae							
Taxonomic status		Species							
Vernacular names		Maida Lakri.							
Habit		Tree							
Habitat		Along streams, on hill slopes and in sal mixed forests							
Original global distribution		Sub tropical and tropical Asia.							
Current regional distribution		• Hoshangabad, • Mandla, • Panna, • Seoni, • Shivpuri, • Sagar, • Rewa,							
Elevation range (M)		Up to 1000							
Population reduction (pl. tick in appropriate cell)		<30%	30 to 49%	50 to 80%	>80%				
			√						
Time/Rate(Year/generation)		3 Generations.							
Extend of occurrence (EOO)		Km^2	>20,000						
Area of occurrence (AOO)		Km^2	>2,000						
No. of location /Sub-Population		13							
Data quality		2, 4							
Threads		Hm, Sf, Lf, Sd, Tp.							
Trade	Names	Maida lakri							
	Level(S)	Local	√	Regional	√	National	√	Global	√
	Part traded	Bark							
	Effect of population	Declining							
	Data quality	2, 3, 4							
Other comments		• Gum of the bark is used to make Agarbatti, • Natural regeneration of the species is almost absent. Natural regeneration is by coppicing.							
Recent field of studies		Mudgal V., K.K. Khanna & P.K. Hajra, 1977. Flora of M.P. Vol. II; B.S.I.							
Status									
- CITIES		-							
- Legislation		-							
- Criteria based on		A2cd							
- IUCN		VU							

% of global distribution	<5%
Existing conservation measure	Further exploitation banned.
Is the presence of taxon continuous with neighboring areas	Yes (U.P., Bihar, Orissa, Arunachal Pradesh)
Are the outside population also under similar threads /pressure	Yes
Recommendations	
Research /Management	S, M, Hm.
a. i*n-Situ*	Chitrakoot, Shivpuri.
b. *ex–Situ*	-
i) Cultivation	3
ii) Levels of difficulty in propagation / cultivation	3 (Very difficult).
Existing cultivation	-
Previous assessment	-

DATA SHEET – 12

Botanical name		*Nervilia plicata* (Andr.) Schlechter.							
Basionys/Synonym(s)		*Arethusa plicata* Andr. *Pogonia plicata* (Andr.) Lindl.							
Family		Orchidaceae.							
Taxonomic status		Species							
Vernacular names		Bhuischati.							
Habit		Terrestrial herb.							
Habitat		Damp, dark shady places with high humus soil.							
Original global distribution		Sub tropical regions of old World.							
Current regional distribution		• Hoshangabad (Tewa), • Seoni (Pench), • Chhindwara (Patalkot).							
Elevation range (M)		400-700							
Population reduction (pl. tick in appropriate cell)		<30%		30 to 49%		50 to 80%		>80%	
						√			
Time/Rate(Year/generation)		10 Years.							
Extend of occurrence (EOO)		Km^2	>2000						
Area of occurrence (AOO)		Km^2	>200						
No. of location /Sub-Population		4							
Data quality		2, 3, 4.							
Threads		Lp, E, 7							
Trade	Names								
	Level(S)	Local		Regional		National	√	Global	
	Part traded								
	Effect of population	Declining							
	Data quality	2, 3, 4							
Other comments		Loss due to heavy biotic pressure, grazing, species of ecological and taxonomically importance, representative of evergreen habitat.							
Recent field of studies		Upadhyaya 2005, Shrivastava 2001, Rai 2004.							
Status									
- CITIES		-							
- Legislation		-							
- Criteria based on		A2c							
- IUCN		EN							
% of global distribution		1%							
Existing conservation measure		Nil							
Is the presence of taxon continuous with neighboring areas		Yes							
Are the outside population also under similar threads /pressure		Yes							

Recommendations	
Research /Management	S, M, T, Hm, Lh.
a. i*n-Situ*	√
b. *ex–Situ*	Does not exist.
i) Cultivation	Does not exist.
ii) Levels of difficulty in propagation / cultivation	Not known.
Existing cultivation	No
Previous assessment	No

DATA SHEET – 13

Botanical name		*Phyllanthus emblica* L.						
Basionys/Synonym(s)		*Emblica officinalis* Gaertn.						
Family		Euphorbiaceae						
Taxonomic status		Species						
Vernacular names		Anola, Amla.						
Habit		Tree						
Habitat		Mixed forests						
Original global distribution		Tropics.						
Current regional distribution		• Guna, • Damoh, • Hattarpur, • Hoshangabad, • Mandla, • Tikamgarh.						
Elevation range (M)		200-1,200						
Population reduction (pl. tick in appropriate cell)		<30%		30 to 49%		50 to 80%		>80%
				√				
Time/Rate(Year/generation)		10 Years.						
Extend of occurrence (EOO)		Km^2	>20,000					
Area of occurrence (AOO)		Km^2	>2,000					
No. of location /Sub-Population		Many						
Data quality		3, 4.						
Threads		Hm, Tp.						
Trade	Names	Anola						
	Level(S)	Local	√	Regional	√	National	√	Global	√
	Part traded	Fruit						
	Effect of population	Declining						
	Data quality	3, 4						
Other comments		Destructive harvesting of fruits to be checked, Seed establishment of wild plants should be supported.						
Recent field of studies		• S. N. Khotele, 1998-01, • Anon. 2001-2002. Trade- Demand- Supply study for selected medicinal plants- Vol. I, Centre for Research, Planning and Action.						
Status								
- CITIES		-						
- Legislation		-						
- Criteria based on		A2cd						
- IUCN		VU						
% of global distribution		<1%						
Existing conservation measure		Protection through legislation.						
Is the presence of taxon continuous		Yes						

with neighboring areas	
Are the outside population also under similar threads /pressure	Yes
Recommendations	
Research /Management	Best germplasms- Panna & Tawai, Shikara (Jabalpur), Satna & Sagar.
a. i*n-Situ*	
b. *ex–Situ*	
i) Cultivation	Improved varieties are being cultivated.
ii) Levels of difficulty in propagation / cultivation	1 (Least difficult).
Existing cultivation	-
Previous assessment	-

DATA SHEET – 14

Botanical name		*Pterocarpus marsupium* Roxb.							
Basionys/Synonym(s)		-							
Family		Fabaceae							
Taxonomic status		Species							
Vernacular names		Bijasal, Bija, Pharri.							
Habit		Tree							
Habitat		Tropica dry deciduous forests.							
Original global distribution		Paninsula and S. India.							
Current regional distribution		All over the state.							
Elevation range (M)		200-1,200							
Population reduction (pl. tick in appropriate cell)		<30%		30 to 49%		50 to 80%		>80%	
				√					
Time/Rate(Year/generation)		10 Years.							
Extend of occurrence (EOO)		Km^2	>20,000						
Area of occurrence (AOO)		Km^2	>2,000						
No. of location /Sub-Population		-							
Data quality		1, 3.							
Threads		E, Hm, L, Tp, Sf.							
Trade	Names	Bija							
	Level(S)	Local	√	Regional	√	National	√	Global	√
	Part traded	Wood, Gum							
	Effect of population	Declining							
	Data quality	1, 3.							
Other comments		-							
Recent field of studies		R. K. Pandey *et. al.* 1992-2000. Project report.							
Status									
- CITIES		-							
- Legislation		-							
- Criteria based on		A2cd							
- IUCN		VU							
% of global distribution		10-15%							
Existing conservation measure		-							
Is the presence of taxon continuous with neighboring areas		Yes							
Are the outside population also under similar threads /pressure		-							

Recommendations	
Research /Management	Seed biology, Regeneration studies, Studies on biotic impact.
a. i*n-Situ*	-
b. *ex–Situ*	-
i) Cultivation	-
ii) Levels of difficulty in propagation / cultivation	3 (Highly difficult).
Existing cultivation	-
Previous assessment	-

DATA SHEET – 15

Botanical name		*Thalictrum foliolosum* DC.							
Basionys/Synonym(s)		-							
Family		Ranunculaceae							
Taxonomic status		Species							
Vernacular names		Mamiri, Pilazari.							
Habit		Herb.							
Habitat		On slopes of ravines in shades of rocks, cool places.							
Original global distribution		New Guinea, tropical America, tropical and sub tropical Africa, India, Himalayan region.							
Current regional distribution		• Amarkantak, • Chhinwara, • Hoshangabad, • Pachmarhi.							
Elevation range (M)		900-1,300							
Population reduction (pl. tick in appropriate cell)		<30%		30 to 49%		50 to 80%		>80%	
				√					
Time/Rate(Year/generation)		10 Years.							
Extend of occurrence (EOO)		Km^2	>20,000						
Area of occurrence (AOO)		Km^2	>2,000						
No. of location /Sub-Population		<20 sites.							
Data quality		3, 4.							
Threads		Hm, Lp, Tp.							
Trade	Names	Mamiri							
	Level(S)	Local	√	Regional	√	National	√	Global	
	Part traded	Root							
	Effect of population	Declining							
	Data quality	3, 4.							
Other comments		• Observed in few localities in Amarkantak, • Habitat needs protection, • Local people collect roots on the demand from traders.							
Recent field of studies		-							
Status									
- CITIES		-							
- Legislation		-							
- Criteria based on		A2cd							
- IUCN		VU							
% of global distribution		<1%							

Existing conservation measure	-
Is the presence of taxon continuous with neighboring areas	Yes
Are the outside population also under similar threads /pressure	Yes
Recommendations	
Research /Management	Specific sites need to protect.
a. i*n-Situ*	Amarkantak, Jagatpur, Chada, Bajag.
b. *ex–Situ*	-
i) Cultivation	-
ii) Levels of difficulty in propagation / cultivation	3 (Very difficult) {Reference HAPPRC on propagation}.
Existing cultivation	-
Previous assessment	-

DATA SHEET – 16

Botanical name		*Uraria picta* (Jacq.) Desv. ex DC.							
Basionys/Synonym(s)		*Hedysarum pictum* (Jacq.)							
Family		Fabaceae							
Taxonomic status		Species							
Vernacular names		Prashnaparni (Hindi).							
Habit		Perennial under shrub							
Habitat		Forest fringe areas as under growth.							
Original global distribution		Asia, Africa, Australia.							
Current regional distribution		All over M.P.							
Elevation range (M)		Up to 1000							
Population reduction (pl. tick in appropriate cell)		<30%		30 to 49%		50 to 80%		>80%	
				√					
Time/Rate(Year/generation)		10 Years.							
Extend of occurrence (EOO)		Km^2	>20,000						
Area of occurrence (AOO)		Km^2	>2,000						
No. of location /Sub-Population		In pockets.							
Data quality		2, 3, 4.							
Threads		Hm, Hp, Lp, Sd, Sf, T.							
Trade	Names	Prashnaparni							
	Level(S)	Local	√	Regional	√	National	√	Global	√
	Part traded	Whole plant.							
	Effect of population	Declining							
	Data quality	3, 4.							
Other comments		Complete plant is used there by threatening the population.							
Recent field of studies									
Status									
- CITIES		-							
- Legislation		-							
- Criteria based on		A2cd							
- IUCN		VU							
% of global distribution		<1%							
Existing conservation measure		Not known.							
Is the presence of taxon continuous with neighboring areas		Yes							
Are the outside population also under similar threads /pressure		Yes							

Recommendations	
Research /Management	S (Survey, search & find).
a. i*n-Situ*	-
b. *ex–Situ*	-
i) Cultivation	-
ii) Levels of difficulty in propagation / cultivation	1 (Least difficult).
Existing cultivation	Not known.
Previous assessment	-

Awareness generation among the local people about the natural resources and their utilization

During the field survey of various sacred groves, awareness was generating in the nearby villages. Villagers participated in the awareness programme and discussed in detail about sacred groves and natural resources close to their villages. They discussed the methods of collection of NTFPs and other natural resources. Team members explained the onn distrutive and sustainable harvesting methods of some important NTFPs and forest products like Aonla, Bel, Satavar, Baibidang, Malkangni, Kalmegh, Tikhur, Baichandi, etc. Team members also created interest among concerned villagers for growing important commercial plants in their vicinity/neighbourhood.

SUMMARY & CONCLUSIONS

Chhindwara is one of the tribal dominated district of Madhya Pradesh. Though in Madhya Pradesh, the presence of sacred groves was reported long back in 1970's by Gadgil and Vartak (1974) and later by Gokhale *et al.,* (2001), yet til now, no study has been initiated to acknowledge the status and conservation values of these groves. The identification and inventorization of the sacred groves has done through this project for the first time. District Chhindwara has been taken for the inventorization of SG's with following objectives;

- To study the status of sacred groves.
- To inventorise the floral and faunal diversity.
- To study the status of endemic, rare and threatened medicinal plants in sacred groves.
- To document the traditional knowledge of natural resourses and their value.
- To lanch awareness campaign among the local people about the natural resourses and their utilization

To fulfill the above objectives, the following line of action was followed. To assess the diversity of medicinal plants, seasonal periodical survey has been done in the sacred groves. Phytosociological studies and vegetation analysis were carried out through quadrat method. Diversity index and index dominance have been calculated through Shannon & Simpson index. Status of rare and endangered medicinal plants was determined and its degree associated with these places was assessed. UNESCO model was adopted to work out the status of endangered species. IUCN red list category for evaluating the status of medicinal plants was followed as per literature.

OBSERVATIONS

Status of Sacred Groves

A survey was conducted for the identification of about 49 sacred groves in Chhindwara district of Madhya Pradesh. The sites were identified on the basis of the beliefs of the tribals in these places as well as their faith in the deity associated with these places. These places are still in very good condition and can provide a very good *in situ* conservation site for threatened species as well as their habitats. One of the most important features of some of the sacred groves can be shown by the presence of a perennial water source within the premises.

Forty-nine sacred groves were identified in Chhindwara district of Madhya Pradesh. During the study 13 forest ranges of west, south and east Chhindwara forest divisions have been covered. Maximum 10 sacred groves were identified from Parasia range whereas Amarwada range has 7 sacred groves, Pandurna and Tamia ranges 6, Sausar 5, Damua 4, Bichhua, Chaurai, Harraii, Jamaii and Sillewani ranges 2 each and Ambada range has one sacred grove.

The identified groves were of sizes varying from 10 M^2 to 500 M^2. Maximum 22 sacred groves are of area class 50 M^2. Whereas 7, 6, 5, 4, 3, and 1 sacred groves belong to area classes 500 M^2, 100 M^2, 200 M^2, 10 M^2, 20 M^2, 300 M^2 and 400 M^2.

Major gods and goddesses worshiped in the above mentioned sacred groves are Nandagiri Shiv, Gorakhnath, Machhindernath, Sidhnathbaba, Hinglaj Devi, Junnardeo,

Deorani Dai, Shanideo, Hanuman, Bajrangbali, Mahulwale Bajrangbali, Ram, Durga, Saiiyadbaba, Badi Chandimata, Chhoti Chandimata, Golaiwalebaba, Nainadevi, Banjarimaii, Hanuman, Shankar, Krishna, Meera, Shardadevi, Lakshman, Sita, Durga, etc. Out of 49 identified sacred groves, 34 are worshiped for different gods and 15 for different goddesses.

The year since of scared grove has been existence, has also been recorded. The duration of existence has been classified into various existence classes. The maximum 19 scared groves are in existence class H (since 50 years) whereas 10 scared groves belong to existence class M (since 100 years) and only one scared grove to class N (more than 150 years). Other existence classes are G (40 Years Old), J (75 Years Old) and K (80 Years Old) are representing 3 sacred groves each; A (10 Years Old) and E (25 Years Old) having 23 sacred groves each and B (15 Years Old), C (20 Years Old), E (25 Years Old), F (35 Years Old), I (70 Years Old) and L (90 Years Old) only one sacred groves each.

All their beliefs are related with their interaction, dependence and reverence for the nature and its produce. These fundamental principles behind the concept of each sacred grove are seen in many places in the district.

The number of sacred groves situated at different distances from nearby villages has also been analysed. After the analysis it is found that maximum 11 sacred groves are situated in each of the distance classes 1 km and 2 kms., whereas 9, 8, 3, 3, 2, 1 and 1 sacred groves are situated in the distance classes 3 kms., 0.5 km., 4 kms., 5 kms., 6 kms., 1.5 km. and 8 kms. respectively.

Floristic Composition and Plant Diversity

All the sacred groves in Mandla district of Madhya Pradesh have been surveyed and inventory of the plant diversity was prepared. Total 140 plant species belonging to 55 families and 109 genera alphabetically arranged with their local names, family names and habitat are given in the report.

Collected data revealed the existence of 6 large sized trees, 59 medium sized trees, 11 small trees, 47 herbs, 11 climbers, 3 grasses and 3 epiphytes in the sacred groves in Chhindwara district of Madhya Pradesh it also shows that the maximum number of trees fall under middle age group. Herbaceous flora is also found in and around different sacred groves.

Plant Diversity Index

Total 32 tree species were recorded from the area. The data were analysed for frequency %, density ha^{-1}, basal area m^2 ha^{-1}, IVI and diversity index. The species *Anogeissus latifolia, Terminalia alata and Lagerstoemia parviflora* show the 75 to 100% frequency, whereas species *Diospyros melanoxylon, Tectona grandis and Phyllanthus emblica* show 50 to 75%; *Acacia catechu, Acacia leucophloea, Bridellia retusa, Mitragyna parviflora, Semecarpus anacarium, Terminalia bellirica, Ougeinia oogeinensis, Terminalia chebula, Albizia lebbeck, Bombax ceiba, Buchanania lanzan, Butea monosperma, Flacourtia indica and Madhuca latifolia* 25 to 50% and *Aegle marmelos, Feronia limonia, Ficus religiosa, Mallotus phillipensis, Dalbergia paniculata and Careya arborea* less than 25% frequency. The maximum value of basal area ($23.86 m^2$ ha^{-1}) was occupied by the species *Lagerstoemia parviflora.* The highest IVI values (67.89) was found *Lagerstoemia parviflora.* The lowest IVI value was for *Mallotus phillipensis* as 2.16. Maximum and

minimum diversity indices were recorded for the same species as 0.34 and 0.04, respectively.

The status of shrub layer is constituted by an association of 27 species. Frequency percentage of *Flacourtia indica, Lagerstoemia parviflora, Diospyros melanoxylon, Lantana camara* and *Helicteres isora* was found between 75 to 100%. *Madhuca latifolia, Terminalia alata* and *Anogeissus latifolia* show 50 to 75 % frequency, whereas species such as *Semecapus anacardium, Acacia catechu, Phyllanthus emblica, Tectona grandis* and *Miliusa tomentosa* from 25 to 50% and *Ficus religiosa, Ougeinia oogeinensis, Aegle marmelos, Albizia lebbeck, Buchanania lanzan, Feronia limonia, Mallotus phillipensis, Terminalia chebula, Butea monosperma, Jatropha gossypifolia* and *Acacia leucophloea* from less than 25% respectively. The IVi value in shrub species ranged between 3.47 in *Albizia lebbeck* to 26.23 in *Lantana camara.*

Arthaxon hispidus and Hyptis suaveolens showed the maximum frequency percentage from 75 to 100% and only one species viz; *Lantana camara* had frequency in the range of 75 to 100% frequency. Species namely *Ocimum canum, Cassia tora, Polygonum glabrum, Tephrosia purpurea, Vernonia cinerea, Cynodon dactylon, Hemidesmus indicus, Echinops echinatus and Anogeissus latifolia* showed 25 to 50% and *species Blepharis maderaspatensis, Capparis zeylanica, Flacourtia indica, Hamiltonia suaveolens, Sida alba, Ampelosissus latifolia, Aristida funiculata, Aspargus racemosus, Biophytum sensitivium, Ceropegia bulbosa, Clemone viscosa, Combretum roxburghii, Eragrostis viscosa, Gardenia gummifera, Heteropogon contortus, Ichnocarpus frutescens, Indigofera astragalina, Scoparia dulcis, Sida cordifolia, Alysicarpus hamosus, Alysicarpus tetragonolobus, Chloris virgata, Citrulus lanatus, Convolvulus prostratus, Sesbania sesban, Tribulus terrestris, Cleistanthus collinus, Cuscuta reflexa, Eragrostis tenuifolia, Madhuca latifolia, Panicum notatum, Pongamia pinnata, Triumfetta annua, Ageratum conyzoides, Woodfordia fruticosa, Dioscorea glabra, Ipomoea fistulosa, Vitex negundo, Xanthium indicum, Aerva sanguinolenta, Barleria prionitis, Desmodium microphyllum, Euphorbia hirta, Mitragyna perviflora, Uraria picta, Cymbopogon martini, Cyperus sp., Phoenix acaulis, Rungia repens, Smilax zeylanica, Sphaeranthus indicus, Tridax procumbens, Triumfetta pentandra, Bridelia retusa, Careya arborea, Leucas aspera, Helicteres isora, Sida rhombifolia, Striga asiatica, Urena lobata, Alternanthera sessilis, Aerva lanata and Cyperus* sp. had frequency less than 25%. *Amorphophallus sylvaticus, Arundinella pumila, Bidens biternata, Blumea obliqua and Boerhavvia diffusa* are showing the percentage value less than 1%. Maximum and minimum IVI values in herbaceous layer were recorded *Hyptis suaveolens* (IVI – 8.58%) and *Ampelosissus latifolia* (IVI – 0.37%), respectively.

Faunal Diversity

Many wild animals were observed during the field survey and the names of the faunal species are Bater *(Coturnix coturnix),* Bulbul (*Pycnontus jocosu),* Koel (*Coculus hirsutus),* Fakhta (*Streptopelia decaocto),* Garden lizard (*Calotes versicolor),* Ghutari (*Muntjak muticas),* Gidha (*Gyps bengalensis),* Gilhari (*Funambulus palmarum),* Goraiya (*Passer domesticus),* Harial (*Treron phoenicoptera),* Jungle Kowwa (*Corvus macrorhynchos),* Jungli myna (*Acridotheres ginginianus),* Kabutar (*Columba livia),* Katphorwa (*Dendroccopos mahrattensis),* Khargosh (*Lupus rufcaudatus),* Kowwa (*Carvus splendens),* Langur (*Presbytis entellus),* Myna (*Sturnus pagodarum),* Neelkanth (*Coracias benghalensis),* Ulloo (*Bubo zeylonensis) and* Titar (*Francolinus pictus)*

Ethnobotanical Diversity (Traditional Knowledge)

Twelve different ethnobotanical categories of plant uses were enumerated. These are wild edible plants (143), agricultural implements (114), basketry work (14), decoration (8), defense equipments (16), dye and tannin (16), fencing, hedge and protection (7), fishing and hunting (10), fodder (38), fuel (45), furniture, house building, tools and implements (28), socio-religious and sacred purpose (21). The ethno botanical diversity of tribal groups near different sacred groves were recorded and categorised. 176 medicinal plants used by different tribal groups residing in the near sacred groves were also documented. A list of medicinal plants used for particular ailments was prepared. It was observed that these people have firm faith in medicinal plants to cure their various diseases from fever to cancer. However, these tribes, do not want to reveal their inherited knowledge to the outside world.

Status of Endemic, Rare and Threatened Medicinal Plants

Inventory of endemic, rare and threatened medicinal plants was prepared on the basis of seasonal survey and available field informations. IUCN red list category and threat assessment methods for evaluating the status of the medicinal plants were followed as per threat area. No endemic medicinal plant species were identified from the sacred groves. 14 vulernable species, 1 endangered species, 1 near threatened species were identified from the collected data. Status of endemic, rare and threatened medicinal plants in the 49 sacred groves has been presented with the names of plant species, families and threat status of the species.

THREATS TO SACRED GROVES

Following threats has been observed in the study sites;

1. Encroachment

Many instances were observed where the sacred groves have been encroached by local communities as well as by people migrating from out side.

2. Removal of biomass

In many sacred groves, removal of biomass and cattle grazing is permited. Continuation of these practices over generations has resulted in the dwindling of the groves.

3. Modernization

The most recent threats to sacred groves come from the process of mordenisation. Local traditions are being challenged by the western urban culture. Morden education system fails to instill respect for local traditions. As a result, institution of sacred groves is losing its cultural importance for the younger generations of local people.

4. Sanskritisation

In many places, local folk deities continue to replace the Hindu gods and goddesses. This has resulted in the erection of temples in sacred groves.

5. Commercial forestry

Many sacred groves were destroyed under commercial forestry operations.

6. Shift in belief system

In some places, conversion to other religions has resulted in the degradation of sacred groves.

FUTURE STRATEGIES

1. Understanding local peoples knowledge of resource and their value
2. Developing and creating awareness among local people about the resource and their values.
3. Preparation of action plan for conservation, protection and augmentation of recourses.
4. During the preparation of working plans of the forest divisions sacred groves should be included.
5. Involvement of the local people in protection and augmentation.

CONCLUSION

Traditionally, human relationship with plants played an important role in conservation of flora, fauna and individual species. Expanding human population has caused increased natural resources exploitation and alteration of land use pattern. Phyto-diversity of rich sacred groves could also have strong human impact. Based on the floristic studies carried out in 48 sacred groves in two districts of Madhya Pradesh, it clearly shows that these groves are the hot spots of biological and socio-cultural diversity. The floristic composition also suggested that these were the remnants of the once flourishing forest. About 60% of the plants were medicinally and also economically important. Many rare, endemic and threatened plants are conserved in these areas. It is a clue that even climax vegetations of various altitudes and latitudes can be conserved *in-situ* in these groves. The present study revealed that it is important to do systematic enumeration of these isolated habitats. They could be used as germplasm collection of all the plants in an area. Micro-propagation and tissue culture of the fast disappearing plants of these groves are to be undertaken on a priority basis for conservation.

A proper understanding of local traditional knowledge would be the field of prime importance. It can be achieved through preparation of biodiversity register for these sacred groves.

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ASSESSMENT OF STATUS AND ROLE OF SACRED GROVES IN CONSERVATION OF BIODIVERSITY AT DIFFERENT LEVELS IN MADHYA PRADESH – DISTRICT HOSHANGABAD

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Polipather, Jabalpur (M.P)

PROJECT COST Rs. 3.00 lakh

PROJECT DURATION One Year (2008-2009)

PROJECT OBJECTIVES

- *To study the status of sacred groves.*
- *To inventorise the floral and faunal diversity.*
- *To study the status of endemic, rare and threatened medicinal plants in sacred groves*
- *To study and document the traditional knowledge about natural resources and their value*
- *To create awareness campaign among the local people about the natural resources and their utilization*

SPONSORING AGENCY

M. P. State Biodiversity Board, Bhopal (M.P)

IMPLEMENTING AGENCY

State Forest Research Institute, Polipather, Jabalpur (M.P.)

INTRODUCTION

In ancient times, Sacred Groves were places of sanctuary and worship for the Druids. Like a temple or chapel set within the natural world, they were places of spiritual refuge: places to calm the mind, refresh the spirit, and give comfort in times of distress. Druids today continue this tradition of seeking tranquility in woods and forests, in which they meditate and hold ceremonies. Many contemporary Druids are creating new sacred groves – in their gardens, on their farms or on public land. In 1988, the Order began the Sacred Grove Plantation Programme – offering support, advice, and financial aid to members of the Order and members of the community who wanted to create new sacred spaces across the world. As a result, thousands of trees, and hundreds of groves have been planted around the world. These groves form a network of woodland sanctuaries that radiate peace, and offer refuge to both wildlife and humankind.

Trees are universally powerful symbols, a physical expression of life, growth and vigour to urban, rural and forest dwellers alike. They can symbolize historical continuity and human society. They are often of frightening magnitude, linking earth and heavens, arbiters of life and death, incorporating both male and female aspects, and home to both good and bad spirits, including the souls of ancestors. Trees provide protection from harm, cure diseases and increase fertility. Trees preside over marriages, are planted at the birth of a child and at burial sites. In some origin myths, the first men and women were made of wood.

Sacred groves have a great significance from the point of view of biodiversity conservation because they contain some important species of flora and fauna that have been lost in the surrounding area. Unfortunately, most sacred groves in India are fast disappearing due to the pressures of development and the changing attitudes and values of the communities that protected them.

In India, and in many other countries, such as Ghana, Nigeria, Syria and Turkey, people used to set aside tracts of forest because they believed that a particular pocket of the forest had a resident god who must be protected. These areas, called “Sacred Groves”, have been protected by local communities over the ages. As a result of protection, these groves harbour a great diversity of plant and animal life.

Sacred groves are found in many parts of India – from, Meghalaya in the north-east to Rajasthan in the west and in many places along the Western Ghats. They range in area from a few trees to hundreds of hectares of forestland. In most of these groves, all forms of vegetation, including shrubs and climbers, belong to the diet. Grazing and hunting are prohibited, and only the removal of dead wood is allowed. One sacred grove in Mawphlang, 25 km from Shillong, has a deity so powerful that it is believed anyone, who damages the groves, dies.

Sacred groves have a great significance from the point of view of biodiversity conservation because they contain some important species of flora and fauna that have been lost in the surrounding area. Unfortunately, most sacred groves in India are fast disappearing due to the pressures of development and the changing attitudes and values of the communities that protected them.

In India, sacred groves are scattered all over the country, and do not enjoy protection by central or state legislation. Some NGOs work with local villagers to protect such groves. Each grove is associated with a presiding deity, and the groves are being referred by different names in different parts of India. They are maintained by local communities where hunting and logging are strictly prohibited. Most of these sacred groves are associated with local Hindu gods and goddesses, whereas sacred groves of Islamic and Buddhist origins are also known. Sacred groves occur in a variety of places - from scrub forests in the Thar

Desert of Rajasthan maintained by the Bishnois, to rain forests in the Kerala Western Ghats. Himachal Pradesh in the North and Kerala in the South are specifically known for their large numbers of sacred groves.

Around 14,000 sacred groves have been reported from all over India, which act as reservoirs of rare flora and fauna, amid rural and even urban settings. Experts believe that the total number of sacred grove could be as high as 100,000. Threats to the groves include urbanization, over-exploitation of resources, and environmental destruction from Hindu religious practices. While many of the groves are looked upon as abode of Hindu gods, a number of them have been partially cleared for construction of shrines and temples in the recent past.

Preservation of biodiversity, 'Animism' and 'naturalism' are part of the cultural life. Tribal populations have created and maintained the Sacred Groves in forest areas. These are found all over India in the tribal zones. Mostly, they represent the only surviving examples of climax vegetation. Such virgin forests are usually located at the origins of water springs in a wilderness area and in the catchment areas of river basins. A Sacred Grove is usually dedicated to a deity or a 'mother goddess' who is supposed to protect and preside over the Grove. It is believed that such Sacred Groves have been surviving for several thousand years. The degree of sanctity of these sacred forests varies. In some forests, even the dry foliage and fallen fruits can not be touched whereas in others, the deadwood may be picked up, but never the live trees or their branches and even the animals and birds are not disturbed. The Garo and Khasi tribes of North-Eastern India completely prohibit any human interference in their sacred groves. The Gonds of Central India prohibit the cutting of a tree but allow fallen branches to be used.

Sacred or holy places are found in different cultures, past and present, all over the world. Such places are frequently marked or embellished by architectural structures and art. There are many websites containing text and images which examine the nature of the sacred groves. It also explores how art and architecture serve to embody or manifest on both physical and spiritual planes the sacredness or mystery of a site. One of major aims is to explore how and why places become invested with sacredness. In most cases, it can be shown that the sacredness of a place is linked in some way to natural objects and features, such as trees, stones, water, mountains, caves, and forms in the landscape. It can further be shown that these natural objects and forms lie at the root of the forms and shapes employed to mark or embellish a sacred site. These same sacred forms and shapes derived from natural objects and features become symbolic or emblematic of the sacred or divine. When they are articulated in art and architecture, they become not only the 'abode' of the divine, but also serve as a means to entice the divine either to continue to reside at a given place or to take up residence at a new site.

The sacred groves of ancient times have become, in many cases, the 'Biosphere Reserves' of today and are found in several parts of India. The states with large tribal populations have the highest number of biosphere reserves in the form of wildlife sanctuaries and national parks. Sacred Groves are technically defined with following definitions;

- ✓ “Sacred grove” is traditional means of biodiversity conservation.
- ✓ “Sacred groves” are tracts of virgin forest, the vestiges of an ancient practice in which people protect forest patches to avoid the perceived wrath of God.
- ✓ Anthropogenic tree stands raised in honour of heroes and warriors and maintained by the local communities with religious fervor.
- ✓ Mini biosphere reserves.

Sacred groves are often described as;

- Natural museum
- Treasure house of rare, endangered and endemic species.
- Dispensary of medicinal plants
- Recreation center for urban life
- Garden for botanists
- Gene bank of economic species
- Laboratory for environmentalists
- Paradise for nature lovers

In different areas, Sacred Grove is locally named as;

- "Deoriar" - Maharashtra
- "Sarnas" - Bihar
- "Orans" - Rajasthan
- "Devarkadu" - Karnataka
- "Kavu" - Tamilnadu & Kerala
- "Dav" - Madhya Pradesh

The Sacred Groves also play an important role as;

1. Hot spots
2. Lead to optimum level of biomass accumulation and $CO_2 = O_2$ balance locally.
3. The thick vegetation with different layers of canopy facilitates the harvesting and distribution of rain water.
4. The nesting place of many birds.
5. The abode of many pollinator insects and bees.
6. Helpful in checking the extension of desertification, degradation of soil and its erosion.
7. Source of many medicinal plants.
8. Sanctum sanctorum of many rare, endangered and endemic species to serve as gene banks.

Sacred groves are deteriorating at an alarming rate across the country. There is an urgent need to identify and protect these sacred groves to save nature in its pristine form.

PROJECT OBJECTIVES

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- ***To inventorse the floral and faunal diversity.***
- ***To study the status of endemic, rare and threatened medicinal plants in sacred groves.***
- ***To study and document the traditional knowledge about natural resources and their values.***
- ***To create awareness among local people about natural resources and their utilization.***

STUDY SITE

Hoshangabad district is located at 22°45′N 77°43′E and 22.75°N 77.72°E. It has an average elevation of 278 metres (912 feet). Northern boundary of the district is river Narmada. Across this the districts of Raisen and Sehore lie. The district of Betul lies in the south, where as the Harda district faces with the western and south-western boundaries and Narsingpur and Chhindwara districts, close to the north-eastern and south-eastern sides of the district, respectively. Hoshangabad was earlier called Narmadapur after the river Narmada. However, later, the name was changed to Hoshangabad. It is famous for the beautiful Sethani ghat along the banks of river Narmada. There are colourful celebrations in the city on Narmada Jayanti. In Hoshangabad district, there are two main rivers namely the Narmada and the Tawa, which join each other at the village Bandra Bhan. At this spot, a holy fair is also organised on the occasion of Kartik purnima. Other small rivers are the Dudhi and the Denwa. A very big lake is also at Pachmarhi, which is one of the main tourist places of the district and it is open for boating for all tourists. The district has an area 5408.23 km².

As of 2001 India census, Hoshangabad had a population of 97,357. Males constitute 53% of the population and females 47%. Hoshangabad has an average literacy rate of 73%, higher than the national average of 59.5%: male literacy is 80%, and female literacy is 66%. In Hoshangabad, 13% of the population is under 6 years of age.Total literacy of the district is 54.11% out of which literacy of male and female is 67.19% and 39.29%. The district has 7 tehisls and development blocks as given below;

S. No.	Name of tehsil	Name of development block	Population
1	Hoshangabad	Hoshangabad	88689
2	Babai	Babai	101796
3	Itarsi	Itarsi	97964
4	Sohagpur	Sohagpur	107395
5	Bankhedi	Bankhedi	106542
6	Pipariya	Pipariya	100576
7	Seoni malwa	Seoni malwa	146909

Economy of the district largely depends on agriculture. The land is quite fertile here and farmers have plenty of water supplies throughout the year in the form of river Narmada and heavy monsoon. The farmers employ rotation of crops and their major income depends on soyabean and wheat. The city has traditional way of living with many engaged in occupations just enough for sustaining life. Some important locations of the district are;

1. Old age rock painting on Adamgarh hills consisting of rock paintings. It is a site of national importance. It is two kilometers away from the main city.
2. Bandhrabhan - a holy fair is held every year at Bandhrabhan as it is a meeting point of two main rivers Narmada and Tawa.
3. Salkanpur - Goddess Durga temple approximate 35 km from Hoshangabad. It can be reached via Budni or from the Bhopal-Nasurullaganj route. It is approximately 70 km from Bhopal.
4. Sethani Ghat - This is an old ghat built on the bank of river Narmada. Many temples are situated near to this.
5. Hushang Shah Fort - This is an old fort built by Malwa ruler Hushang Shah. This is located adjacent to river Narmada.

6. Pachmarhi and Satpura Tiger Reserve

Hoshangabad district is having a naturally biodiversity rich area known as Pachmarhi, a hill station and popular tourist spot in the Satpura Range in the southern part of the district. Pachmarhi was the summer capital of the Central Provinces and Berar during British rule. The Pachmarhi Sanctuary (461.37 km^2) is part of the larger Pachmarhi Biosphere Preserve, which extends into Betul and Chhindwara districts.

Pachmarhi, the only hill station of Madhya Pradesh, and a pilgrimage site for Shiva bhaktas from the surrounding country side, is now the base for enjoying the natural riches of the Satpura Tiger Reserve as well. The tiger reserve encompasses the oldest forest reserve of India, the Bori Wildlife Sanctuary, and the breathtaking scenery of the Pachmarhi Wildlife Sanctuary along with the Satpura National Park. It was at Pachmarhi where Captain James Forsyth constructed the famous Bison Lodge and founded the State Forest Department.

Gonds follow tribal endogamy and clan exogamy. Monogamous marriage is common among the Gonds but polygamy is not altogether unknown. Cross-cousin marriage (both paternal and maternal) is preferred. Parallel-cousin marriage has not been observed. They follow the system of patriarchy. Remarriages and widow marriages are also permitted. Divorces are very common among Gonds. Earlier, Gonds were mostly forest-dwellers but at present, they are settled as agriculturists and hence, are also referred as Kisan (farmer). The food habits of Gonds are uniform. Their staple food is the gruel of millet and boiled rice. Both, vegetarian and non-vegetarian foods, are consumed by them. They hardly hesitate to consume any kind of meat except for the one belonging to their totemic systems. Beef-eating is generally restricted, showing their inclination towards Hinduism. The Gonds have a highly developed aesthetic sense. They indulge in merry-making and pleasure seeking which is manifested in dancing and singing and in celebration of festivals like Holi and Megnath swinging rite. Megnath is said to be the son of Ravan, the demon king of Lanka. They are highly superstitious and are always afraid of 'evil eyes' and other misfortunes like epidemics etc. The dead person, whether male or female, is buried. He is buried with the face upward, head to the south and feet to the north, in the clothes in which he died with a new cloth spread over the body. The body is not given bath before burial.

Folk dance, folk songs and folk music play vital role in the cultural life of Gonds. It is through music and dance that they keep themselves occupied in the evenings. Folk music and dance give expression to their innermost feelings, their joys and sorrows, their natural affections and ideals, their appreciation of beauty towards nature and war. Every season and every socio-religious ceremony has specific songs. On the occasions of their important religious festivals and marriages, they are fond of dancing and singing the whole day and night. Both the male and female take active part in singing and dancing.

Folk dances of Gonds are popularly called as 'Karma'. 'Karma' is the name of the plant commonly grown in the area. Before the beginning of the ceremonial dance, a stem of the plant called 'Karam Kalla', is buried in the ground and the dancing troupe dances around this plant. Another interpretation of 'Karma' given by the local inhabitants, refer to the symbolic meaning attached to 'Kar' which means hand and 'ma' means to me. Thus, the literal meaning of Karma is to "give your hand to me and dance with me", as the movements in the dance involve holding the hands of the partner. This interpretation of Karma appears to be quite logical.

Hareli is the festival of rain. It is observed in the early period of rains. The goddess of crop 'Kutki Dai' is worshipped on this occasion to ensure better harvest. This is mostly in the months of July-August. 'Hareli' word is probably derived from Hindi word, 'Haryali' which

means greenery as vegetation begins to bloom and there is greenery all around in this season.

Forest and resources

According to Champion & Seth (1964), the forests of Hoshangabad division are classified under following types;

Type 1. 5A/C-1b – Southern tropical dry deciduoud teak forest

Type 2. 5A/C-3 - Southern tropical dry deciduoud mixed forest

The majority of forest area is of steep and moderate slope hilly topography in which so many rivers and streams flow. Almost half of area is composed of degraded forests and blanks and so, the problem of soil erosion is acute. Among the factors responsible for damaging the forests, man is the major player inflicting the damage in the form of excessive grazing, land encroachments and illicit tree felling. The grazing pressure is double that of the carrying capacity of forests. The forest qualities varies from III to V but quality IVa and IVb are predomiunant in the district.

Common plant species found under different canopies namely top, middle and ground are *Adina cordifolia, Aegle marmelos, Anogeissus latifolia, Azadirachta indica, Bauhinia purpurea, Bauhinia variegata, Briedelia retusa, Buchanania lanzan, Butea monosperma, Careya arborea, Casia fistula, Cordia dichotoma, Dalbergia paniculata, Diospyros melanoxylon, Emblica officinalis, Feronia limonia, Ficus bengalensis, Ficus glomerata, Ficus religiosa, Flacourtia indica, Gardenia latifolia, Gmeliina arborea, Grewia tiliaefolia, Holoptelia integrifolia, Kydia calycina, Lagerstroemia parviflora, Madhuca indica, Mangifera indica, Mitragyna parvifolia, Ougenia oojeinensis, Pterocarpus marsupium, Randia dumetorum, Schleichera oleosa, Semecarpus anacardium, Sterculia urens, Soymida febrifuga, Syzygium cumini, Syzygium heyneanum, Tamarindus indica, Tectona grandis, Terminalia arjuna, Terminalia bellirica, Terminalia chebula and Ziziphus xylopyra. Anona squamosa, Calotropis gigantea, Helicteres isora, Indigofera pulchella, Ipomoea fistulosa, Jatropha curcas, Latana camara, Nyctanthes arbortristis, Ricinus communis, Vitex negundo and Woodfordia fruiticosa* constituting the middle canopy. Climber species are *Abrus precatorious, Ampelocissus latifolia, Aristolochia indica, Bauhinia vahlii, Butea superba, Celastrus paniculata, Clematis triloba, Mucuna prurita, Smilax zeylanica and Ventilago calyculata.* Herb species are *Achyranthes aspera, Adhatoda vasica, Desmodium pulchellum, Cassia tora, Curculigo orchioidis, Eclipta prostrata, Ocimum sanctum, Solanum nigrum and Xanthium strumarium.* Grass species of ground flora are *Apuda mutica, Aristida setaceae, Arundo donax, Cymbopogon martini, Cynodon dactylon, Desmostachya bipinnata, Dichanthium annulatum, Eragrostis interrupta, Eragrotis tenella, Heteropogon contortus, Imperata cylindrica, Pennisetum hohenackeri, Saccharum spontaneum, Themeda quadrivalvis and Thysanolaena maxima. Cuscuta reflexa and Dendrophthoe falcatre* are found as parasitic plants in the area.

METHODOLOGY

SACRED GROVES

To initiate the project, important tribal localities, pilgrim places and biodiversity rich areas of Hoshangabad were identified with the help of field survey. Status survey and identification of sacred groves were done during first survey. The information related to location, climatic condition, physiographic features and importance of the area was collected and inventory of flora and fauna was also prepared based on seasonal survey.

To assess the diversity of medicinal plants, seasonal periodical surveys were conducted in the sacred groves. Phytosociological studies and vegetation analysis were carried out through quadrat method. Diversity indices were worked out using Shannon & Simpson formula. Status of rare and endangered medicinal was assessed. IUCN red list category was used for evaluating the status of medicinal plants.

Socio religious importance was ascertained with the help of local tribals. During important festivals, melas and other religious gatherings, the areas were surveyed to find out the relationship of tribal people and the sacred groves. Cultural relationship was also studied to know the importance of sacred groves. Rare, endangered and threatened species were identified with the help of seasonal bio-diversity studies of the area. Wild species, plant genetic varieties of economic importance were also collected for future research.

INVENTORY OF FLORISTIC DIVERSITY

An inventory of collected plant specimens was prepared following simultaneously the identification of plant specimens. All the collected and inventoried specimens were identified with the help of Flora of Tamil Nadu" (Nair & Henry, 1983, Henry *et al.* 1987 & 1989), Flora of Bhopal (Oommachan, 1977) and Flora of Jabalpur (Oommachan & Shrivastava, 1996). Name changes were confirmed from recent literature (Bennett, 1996) and finally the specimens were arranged in their respective families following the Bentham and Hooker's system of classification (1862-1883). Herbarium of collected plants specimen was prepared following the guidelines of Jain & Rao (1984). Relevant keys, description and illustration, if any, were used to determine the family, genus and species.

A list of all species found in all the sacred groves from the district was prepared and arranged family wise, alongwith specifying the rare and endangered species. The collected plant species were also categorized habit wise as large trees, medium trees, small trees, shrubs, climbers, parasites, epiphytes, grasses and herbs. Some economically important medicinal plants were collected in the vital form of whole plants, rhizomes, corns, bulbs and seeds for their *ex-situ* conservation.

ETHNOBOTANY

Initially, important localities and diversity rich areas of wild medicinal plants were identified and demarcated, with the help of field survey. For ethno-botanical studies, the participation and involvement of tribals and local inhabitants were given prime importance. Potential habitats of important medicinal plants were identified. Moreover, potential threats to important habitats having high diversity of medicinal plants were listed and its degree assessed. Various collection and marketing methods of minor forest produces (MFPs) were observed in this area. These were helpful in synthesizing information about current harvesting practices of medicinal plants, both in the form of data and photographic record. During seasonal sample collection, ethno-botanical information was gathered from knowledgeable persons, including some tribals and local people. Thereafter, field notes were entered in the field diary and each specimen was given a specific collection number.

A list of all species, found in the area, was prepared specifying the rare and endangered species. According to particular habit, the collected plant species were also categorized as large trees, medium trees, shrubs, climbers, parasites, epiphytes, grasses and herbs. Some economically important medicinal plants were collected in the vital form of whole plants, rhizomes, corns, bulbs and seeds for the *ex-situ* conservation. These plants and plant vital parts were kept in the medicinal plant gene bank of State Forest Research Institute (SFRI) Jabalpur for further research and reference. During the course of survey, samples of plant species were collected and their status was measured using various phytosociological methods as given by Mishra (1968). A list of all species found in the areas was prepared keeping in view the IUCN list of endangered and rare species. For the species coming under these categories, important information related to location, climatic conditions, and physiographic features of the area was collected.

PHYTOSOCIOLOGY

Phytosociological studies were carried out by standard ecological methods of Mishra (1968) and Smith (1980) by laying quadrats in different localities of the sacred groves. Selection of sites for sampling was done by random sampling procedure. Quadrats of 40 x 40m size were laid out in various potential areas of sacred groves following Nautial *et al.* (1987). This was done to get maximum representation of different potential areas. The girth at breast height (gbh.) of all trees above 20 cm gbh in each 40 x 40m size quadrat was measured and recorded species wise following Parthasarthi & Karthikeyan (1997). Two quadrats each of size 10 x 10 m were laid within the 40 x 40m size quadrats for sampling of shrub species, while three quadrats each of size 1 x 1m were also laid under the 10 x 10m size quadrats for ground flora enumeration.

The IVIs of important species were calculated by using frequency, density and abundance. The various formulae used in the study are:

$$\text{Density} = \frac{\text{No. of individuals per species}}{\text{Area of plot}}$$

$$\text{Relative Density} = \frac{\text{Density of a species}}{\text{Density of all species}} \times 100$$

$$\text{Frequency} = \frac{\text{No. of plots in which species occur}}{\text{Total no. of plots}}$$

$$\text{Relative frequency} = \frac{\text{Frequency of a species}}{\text{Frequency of all species}} \times 100$$

$$\text{Dominance} = \frac{\text{Area of canopy covering / Basal area of a sp.}}{\text{Area of sample plot}}$$

$$\text{Relative dominance} = \frac{\text{Dominance of a species}}{\text{Dominance of all species}} \times 100$$

IVI = Relative density + Relative frequency + Relative dominance

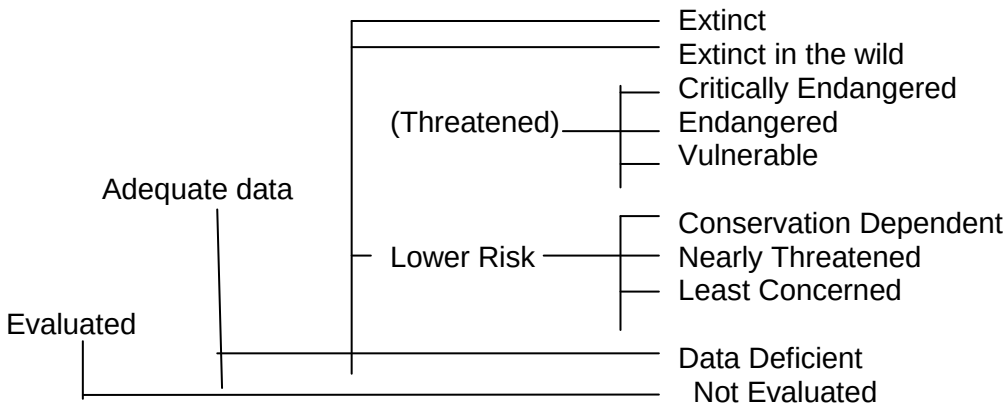
$$H = -\Sigma \left(\frac{ni}{N} \right) \log \left(\frac{ni}{N} \right)$$

Where H = Shannon Wiener Diversity Index
ni = Number of species
N = Total number of individuals
Log implies to log base 10.

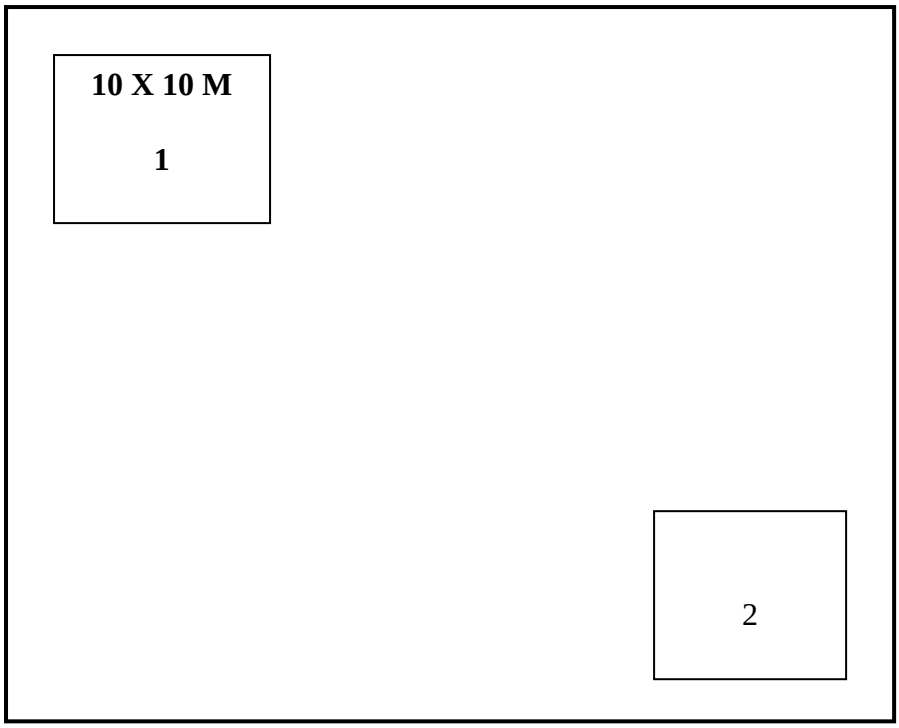
INVENTORY OF RARE AND ENDANGERED MEDICINAL PLANTS

Inventory of rare and endangered medicinal plants was prepared based on seasonal survey and available field information. Potential threats to each habitat having high diversity in medicinal and aromatic plants were listed and its degree was assessed. IUCN Red list categories for evaluating the status of medicinal plants have been followed as given below:

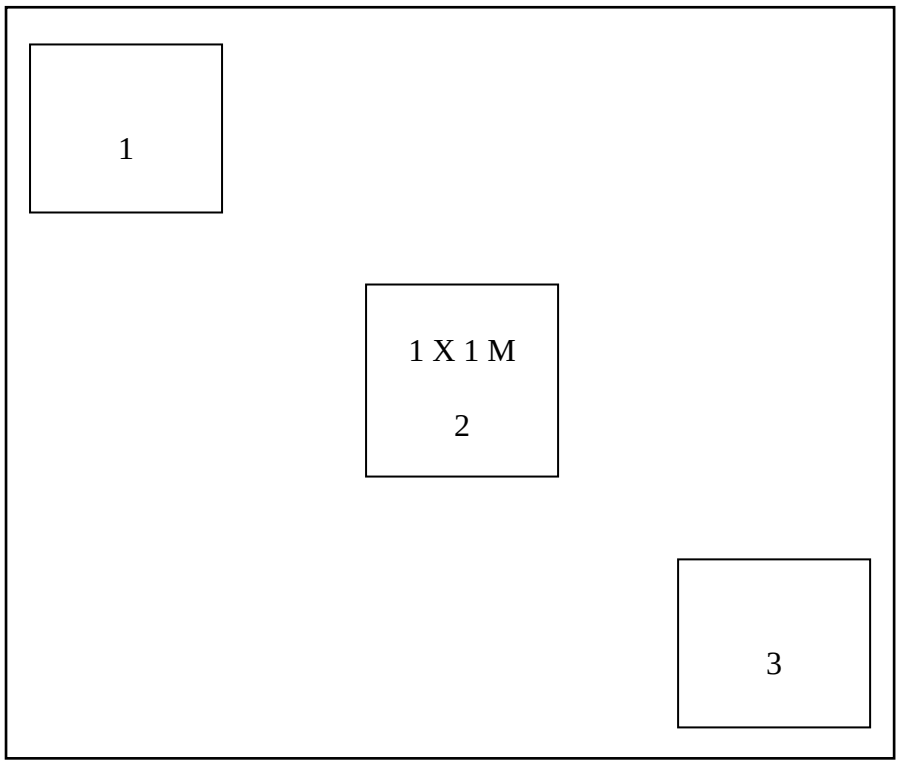
IUCN RED LIST CATEGORIES



PATTERN OF LAY OUT QUADRAT



Size of Quadrat: 40 x 40 m



Size of Quadrat: 10 x 10 m

OBSERVATIONS AND DISCUSSIONS

REVIEW OF LITERATURE AND COLLECTION OF SECONDARY INFORMATION

Secondary data with reference to information of district (area, population, maps, etc.) were collected from different sources and concerned departments.

Published works on plants, animals, scared groves, forest composition, ethnobotany, medicinal plants, multifarious uses of plants, NTFPs, etc. obtained from different sources was reviewed.

IDENTIFICATION OF SACRED GROVES

During the study, 12 forest ranges of Hoshangabad forest division and Satpuda Tiger Reserve, Pachmarhi were covered. The numbers of sacred groves identified from different ranges are given in **Table – 1 & Fig. – 1.**

Table - 1: Numbers of sacred groves identified from different forest ranges

Name of forest range	Number of Sacred Groves
Babaii	1
Bagda	6
Banapura	5
Bankhedi	1
Bhora	4
Itarsi	3
Kamti	3
Panchmarhi	17
Seoni Malwa	4
Sohagpur	6
STR Pachmarhi	12
Sukhtawa	16
Total	**78**

A total of 78 Sacred Groves were identified from Hoshangabad district of Madhya Pradesh. The details of identified Sacred Groves are given in **Table - 2** with names of tehsil and forest range, forest compartment number in which the Sacred Grove is situated, name of Sacred Grove, name of god and goddess worshiped, name of other gods and goddess worshiped along with leading god, approximate area covered by the Sacred Grove (in m^2), period of existence of Sacred Grove (in number of years) and location of Sacred Grove from neighbouring village.

Major Gods and Goddess worshiped in the above mentioned Sacred Groves are Banjari mata, Basaniya Baba, Bhootkahu, Budh Kalin Sput, Chicha Baba, Chitlimai, Churna, Gundi, Daiyat Baba, Dugariya wale baba, Durga Mata, Gadbad Baba, Gajandeo, Ganeshji, Garden Baba, Gond baba, Gutti baba, Gwalibaba, Hanumanji, Imliwale Baba, Jamani deo, Jamuniya Baba, Jango Bai, Jhoola wali mata, Jilehari Baba, Kaliji, Khedapati Mai, Khode, Baba (Mandra Baba), Khokhla mata, Lord Shiva, Mama Bhanja, Mithiya Baba, Nagdevta, Peer Baba, Rori Devi, Sadhu Baba, Saimal Baba, Sakhut Baba, Sankar, Sayyad Baba, Shahidana karwala, Shankarji, Sheshnag, Sidda baba, Siddha Baba and Telibaba.

Two sacred groves in Pachmarhi are specially known as teerth sthans of local tibal communities SG No. 55 Tirthdham and SG No. 75 Gond bangla, where a wodden monument has been kept in the name of dead members of their family and each year, they get together and celebrate a worship programme.

Another Sacred Grove No. 10 Majhibaba in the name of holy god – Guruprasad has been identified, where all the local community members get togather on 15th August and 26th January each year and take an oath to avoid drinking and crime and protect their families.

Unknown god is worshipped each year at Aala Okhli (Water reservoir) for good rainfal.

Out of 78 identified Sacred Groves, 64 are worshiped for different gods and 14 for different goddesses **Fig. - 2**.

Area occupied by sacred groves varies from 100m^2 to 5000 m^2. **Table - 3** shows the distribution of sacred groves in different area classes. It can be seen from the data given in this table that maximum 27 groves are in the area class D - 400m^2. During the survey, it was reported by the villagers that the areas of these sacred groves have been shrinking gradually due to increased anthropogenic activities like cooking, family gathering, marriage ceremony, etc. performed in these sacred groves on which the vegetation around the deity trees is cleared resulting in to loss of biodiversity. **(Fig. 3)**

Table - 3: Number of sacred groves occupying different area classes (in m²).

Approximate Area (m²)	Number of sacred groves
A - 100	24
B - 200	3
C - 250	2
D - 400	27
E - 600	1
F - 1500	1
G - 2000	5
H - 2500	11
I - 3000	1
J - 4000	2
K - 5000	1
Total	**78**

Existence

Age of the sacred groves in Hoshangabad district is also quite variable, as shown in **Table – 4**. It can be seen that out of the total 78 groves in the district, maximum 27 groves are in existence class B - 51 to 100 years old. Some sacred groves are more than 500 year old also. On the other hand, few groves have been recently formed. 24 groves belong to class A - 1 to 50 years. It shows that new sacred groves are also coming up which is good for biodiversity conservation. 10 sacred groves represent class G - More than 500 years in Satpuda Tiger Reserve, Pachmarhi.

Table - 4: Number of sacred groves under different years of existence.

Year of existence class of sacred groves	Number of sacred groves
A - 1 to 50 years	24
B - 51 to 100 years	27
C - 101 to 150 years	4
D - 151 to 200 years	8
E - 201 to 250 years	2
F - 251 to 300 years	3
G - More than 500 years	10
Total	**78**

Distance

The data regarding distances of the sacred groves from the nearly villages were also analysed and results are given in **Table – 5**. It can be seen from this data that villagers prefer to established sacred groves near village, so that they can easily walk down this distance within couple of hours. Out of the total 78 groves, 32 groves are located within a distance of 1 to 2 kms. **(Fig. 5)**

Table - 5: Number of sacred groves under different distance classes (in Kms).

Distance class sacred groves from nearby village	Number of sacred groves
A - Up to 1 km.	12
B - Up to 2 kms.	20
C - Up to 3 kms.	15
D - Up to 4 kms.	12
E - Up to 5 kms.	3
F - Up to 6 kms.	2
G - Up to 7 kms.	1
H - Up to 8 kms.	7
I - Up to 10 kms.	5
J - Up to 15 kms.	1
Total	**78**

Sacred Grove – 1

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Itarsi
Name of Near by Village	Jamuniya
Population	2500 Male 1200, Female 1200, Children 500
Tribe composition Baiga/Gond/Panka	Gond, Bramhan, Patel
Name of Sacred Grove	Tilak Sindur (Rudradham)
Approximate area in m^2	2000
Water bodies	Well, Hansganga River, Hand pump - 3
Location of Sacred Grove	Comptt. PF-180
Distance from District	49 km.
Distance from Tehsil	18 km.
Distance from Near by village	6 km.
Year of existence	88
Tradition (Manyata)	Lord shiva and parvati is worshiped by the local communities for fulfillment of their desires.
Name of Deity	Sankar
Other Deity if any	Bhairawji, Parvati
Name of Guniya / Priest	Lal Baba, Shankar Bal
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective, Bambam Sewa Samiti
Kind of Offerings dedicated	Goat, Chicken, Coconut, Incense stick, Flower
Any devotional Song / Dance/Rituals	Rudri - Mahasivratri
Entry Freedom-Y/N Any Specific day	Yes, Mahasivratri
Day of Worship	Every day
Time of Worship	Morning and Evening
On the Festival	Mashivratri, Sawan
Rules followed	No rules – Common rules.
Steps for conservation of sanctity	Public awareness is needed for conservation of existing biodiversity
Plants and its associates	*Tectona grandis, Aegle marmelos, Mangifera indica, Buchanania lanzan, Emblica officinalis, Diospyros melanoxylon, Terminalia tomentosa, Terminalia chebula, Terminalia bellirica, Artocarpus hetrophyllus, Helecteres isora, Gymnema sylvestre, Chlorophytum arundinaceum, Woodfordia floribunda*

Sacred Grove – 2

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Itarsi
Name of Near by Village	Tirathpur
Population	80 Male 50, Female 30
Tribe composition Baiga/Gond/Panka	Gond, Kerker
Name of Sacred Grove	Sarasdeo Mandir
Approximate area in m^2	2500
Water bodies	Nalla
Location of Sacred Grove	Comptt. PF-134
Distance from District	43 km.
Distance from Tehsil	15 km.
Distance from Near by village	3 km.
Year of existence	100
Tradition (Manyata)	All wishes fulfilled due to the prayer of Bhole baba.
Name of Deity	Sankarji
Other Deity if any	Sarasdeo
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Incense stick, Flowers
Any devotional Song / Dance/Rituals	Normal worship and prayer done by the villagers.
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Every day
Time of Worship	Morning and Evening
On the Festival	Shivratri
Rules followed	As per people desire. They go to place and worship. After fulfilling their promises.
Steps for conservation of sanctity	Sacred grove is situated on the hill top in natural forest area. No need for extra conservation efforts.
Plants and its associates	*Tectona grandis, Terminalia tomentosa, Curculigo orchioides, Chlorophytum arundinaceum*

Sacred Grove – 3

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Itarsi
Name of Near by Village	Tawa Nagar
Population	1200 Male 600, Female 600, Children 100
Tribe composition Baiga/Gond/Panka	Gond, Mainly migrated emplyee of towa dam.
Name of Sacred Grove	Chourashi Deo
Water bodies	Well
Location of Sacred Grove	Comptt. RF-112
Approximate area in m^2	400
Distance from District	60 km.
Distance from Tehsil	32 km.
Distance from Near by village	02 km.
Year of existence	100
Tradition (Manyata)	Goat, Chicken, Murgi
Name of Deity	Shankar
Other Deity if any	Nil
Name of Guniya / Priest	Mr. Vyasji (Towa Nagar)
Type of Sacred Grove- Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Incense stick, Flowers
Any devotional Song / Dance/Rituals	Om jai jagdish hare
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Every day
Time of Worship	Morning and Evening
On the Festival	Navdurga and Shivratri
Rules followed	People visited place as per their needs and promises has been completed. They went and worship.
Steps for conservation of sanctity	Sacred grove is situated in the natural teak plantation area. No need for extra conservation efforts.
Plants and its associates	*Tectona grandis, Buchanania lanzan, Emblica officinalis, Terminalia chebula, Terminalia bellirica, Lagerstroemia parviflora, Chloroxylon swietenia, Anogeissus latifolia, Cassia fistula, Helecteres isora, Chlorophytum arundinaceum, Curculigo orchioides*

Sacred Grove – 4

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukh tawa
Name of Near by Village	Jalikheda 600/Dhsali 700
Population	600/700 Male 300/400, Female 300/300
Tribe composition Baiga/Gond/Panka	Gond, Kerker, Chamar, Lohar
Name of Sacred Grove	Chitlimai
Approximate area in m^2	100
Water bodies	Nil
Location of Sacred Grove	Comptt. PF-46
Distance from District	57 km.
Distance from Tehsil	30 km.
Distance from Near by village	02 km.
Year of existence	40
Tradition (Manyata)	Nil
Name of Deity	Chitlimai
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Incense stick, Flowers, Coconut, Gram, Chirongi (Made up of sugar)
Any devotional Song / Dance/Rituals	Jai ambe gouri
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Every day
Time of Worship	Not specific
On the Festival	Nil
Rules followed	No specific rule
Steps for conservation of sanctity	Fencing is required to prevent biotic pressure.
Plants and its associates	Tectona grandis plantation

Sacred Grove – 5

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukhtawa
Name of Near by Village	Bhomkapura
Population	600 Male 400, Female 200
Tribe composition Baiga/Gond/Panka	Gond, Korka
Name of Sacred Grove	Badbale Baba (Gwalibaba)
Approximate area in m^2	100
Water bodies	Nil
Location of Sacred Grove	Comptt. PF-73
Distance from District	63 km.
Distance from Tehsil	35 km.
Distance from Near by village	03 km.
Year of existence	40
Tradition (Manyata)	From the past this place was fodder land
Name of Deity	Gwalibaba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove- Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Living offering, Incense stick, Gram, Chirongi (Made up of sugar), Flowers
Any devotional Song / Dance/Rituals	Prayer and religious songs.
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	Nor specific
On the Festival	Navratri and Diwali, Worship of cow at gobardhan puja.
Rules followed	Not specific but common rules are followed.
Steps for conservation of sanctity	Fencing is required.
Plants and its associates	*Ficus bengalensis, Terminalia tomentosa, Tectona grandis, Diospyros melanoxylon, Lagerstroemia parviflora*

Sacred Grove – 6

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukhtawa
Name of Near by Village	Basaniya
Population	170 Male 100, Female 70
Tribe composition Baiga/Gond/Panka	Gond, Korka
Name of Sacred Grove	Jilehari Baba
Approximate area in m^2	2500
Water bodies	Stream
Location of Sacred Grove	Comptt. RF-91
Distance from District	64 km.
Distance from Tehsil	35 km.
Distance from Near by village	4 km.
Year of existence	150
Tradition (Manyata)	Nil
Name of Deity	Jilehari Baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Incense stick, Flowers
Any devotional Song / Dance/Rituals	Normal puja for cows and oxes.
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Diwali
Time of Worship	Not specific
On the Festival	Diwali, Ganesh statues are also dedicated after gandesh chaturthi. After the next day of diwali cows & oxes are collected and decorated.
Rules followed	Entry without lather items and without shoes.
Steps for conservation of sanctity	Plantation is needed around adjoining area.
Plants and its associates	Tectona grandis, Anogeisus latifolia, zizyphus jujube, Eragrostis tenella, ciospyros malanoxylon, Buchanania lanzan, *Wrightia tinctoria, Vernonia cenerea, Tamarix aphylla.*

Sacred Grove – 7

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukhtawa
Name of Near by Village	Dandiwada
Population	800 Male 600, Female 200
Tribe composition Baiga/Gond/Panka	Gond, Pandit, Gwala, Kerker
Name of Sacred Grove	Hanumanji (Bajrangbali)
Approximate area in m^2	400
Water bodies	Well and Stream
Location of Sacred Grove	Comptt. P-93
Distance from District	64 km.
Distance from Tehsil	36 km.
Distance from Near by village	3 km.
Year of existence	100
Tradition (Manyata)	Nil
Name of Deity	Hanumanji
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove- Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Gram, Chirongi (Made up of sugar), flowers
Any devotional Song / Dance/Rituals	Nil
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Tuesday and Saturday
Time of Worship	As desired
On the Festival	Hanuman Jayanti
Rules followed	Not specific rule
Steps for conservation of sanctity	Plantation is needed in adjoining area.
Plants and its associates	*Mangifera indica, Delonix regia, Sterculia urens, Woodfordia floribunda, Curculigo orchioides, Lagerstroemia parviflora, Schleichera oleosa, Tectona grandis*

Sacred Grove – 8

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukhtawa
Name of Near by Village	Borkheda
Population	200 Male 100, Female 100
Tribe composition Baiga/Gond/Panka	Gond, Kerker, Chamar
Name of Sacred Grove	Jamuniya Baba
Approximate area in m^2	100
Water bodies	Nall
Location of Sacred Grove	Comptt. RF-86, NH-69. on the road.
Distance from District	54 km.
Distance from Tehsil	28 km.
Distance from Near by village	1 km.
Year of existence	50
Tradition (Manyata)	Nil
Name of Deity	Januniya Baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Gram, Chirongi (Made up of sugar), flowers
Any devotional Song / Dance/Rituals	Common devotional songs song during puja.
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desired.
Time of Worship	As per people desired.
On the Festival	Nil
Rules followed	Common rules followed.
Steps for conservation of sanctity	Fencing is needed to prevent biotic pressure.
Plants and its associates	*Madhuca indica, Terminalia arjuna, Anogeissus latifolia, Ficus racemosa, Lantana camara.*

Sacred Grove – 9

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukhtawa
Name of Near by Village	Basaniya
Population	170 Male 100, Female 70
Tribe composition Baiga/Gond/Panka	Gond, Korka
Name of Sacred Grove	Basaniya Baba
Approximate area in m^2	400
Water bodies	Nil
Location of Sacred Grove	Comptt. No. 89
Distance from District	67 km.
Distance from Tehsil	38 km.
Distance from Near by village	4 km.
Year of existence	50
Tradition (Manyata)	Nil
Name of Deity	Basaniya Baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Living offering
Any devotional Song / Dance/Rituals	Common songs & Dances
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desired.
Time of Worship	Not specific
On the Festival	Deepawali
Rules followed	Common rules followed.
Steps for conservation of sanctity	In natural forest area, Vacant area is needed plantation.
Plants and its associates	*Lannea grandis, Tectona grandis, Syzygium cumini, Eucalyptus spp., Butea monosperma, Madhuca indica*

Sacred Grove – 10

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukhtawa
Name of Near by Village	Hiranchapda
Population	274 Male 150, Female 124
Tribe composition Baiga/Gond/Panka	Gond, Korka
Name of Sacred Grove	Majhi Baba
Approximate area in m^2	100
Water bodies	Hand pump
Location of Sacred Grove	Revenue land but adjoining to forest land of village Hiranchapda
Distance from District	46 km.
Distance from Tehsil	20 km.
Distance from Near by village	01 km.
Year of existence	50
Tradition (Manyata)	Nil
Name of Deity	Sankar
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	No living offering , Coconut, Incense stick, Gram, Chirongi (Made up of sugar)
Any devotional Song / Dance/Rituals	Normal puja
Entry Freedom-Y/N Any Specific day	Yes, 26 January and 15 August
Day of Worship	As on that day
Time of Worship	Morning
On the Festival	26 January and 15 August
Rules followed	Common rules Khakhi Bardi. to protect ourself. The main concept is to prohibited Drinking and Smoking.
Steps for conservation of sanctity	Plantation needed in adjoining area.
Plants and its associates	*Bombax ceiba, Datura strumarium, Mangifera indica*

Sacred Grove – 11

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukhtawa
Name of Near by Village	Charagarh
Population	400 Male 200, Female 200
Tribe composition Baiga/Gond/Panka	Gond, Korka
Name of Sacred Grove	Harumarji
Approximate area in m^2	400
Water bodies	Nil
Location of Sacred Grove	Comptt. RF-66
Distance from District	
Distance from Tehsil	30 km.
Distance from Near by village	1.5 km.
Year of existence	5
Tradition (Manyata)	The hanuman structure is going to big and big slowly.
Name of Deity	Hanumanji
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	No living offering
Any devotional Song / Dance/Rituals	Normal puja is undertaken
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Not specific
Time of Worship	Not specific
On the Festival	Normally as per people disired.
Rules followed	No specific rules
Steps for conservation of sanctity	Teak forest with mixed species needed fencing to prevent biotic pressure.
Plants and its associates	*Tectona grandis, Terminalia tomentosa, Diospyros melanoxylon, Ficus religiosa, Lagerstroemia parviflora, Madhuca indica, Buchanania lanzan, Aegle marmelos, Anogeissus latifolia, Holarrhena antidysenterica*

Sacred Grove – 12

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukhtawa
Name of Near by Village	Rajamariar
Population	500 Male 300, Female 200
Tribe composition Baiga/Gond/Panka	Gond, Korka
Name of Sacred Grove	Kaliji
Approximate area in m^2	400
Water bodies	Nil
Location of Sacred Grove	Comptt. RF-42
Distance from District	50
Distance from Tehsil	25 km.
Distance from Near by village	2
Year of existence	35
Tradition (Manyata)	The people desire is fulfilled by live offering.
Name of Deity	Kaliji
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	No living offering
Any devotional Song / Dance/Rituals	Normal puja songs and dances
Entry Freedom-Y/N Any Specific day	Navdurga
Day of Worship	Navratri
Time of Worship	Morning and Evening
On the Festival	Navdurga
Rules followed	Living offering allowed.
Steps for conservation of sanctity	Adjoining area needed fancing
Plants and its associates	*Terminalia tomentosa, Tectona grandis, Schleichera oleosa, Anthocephalus cadamba, Anogeissus latifoliada, Holoptelia integrifolia, Diospyros melanoxylon, Butea monosperma*

Sacred Grove – 13

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukhtawa
Name of Near by Village	Rajamariar
Population	500 Male 300, Female 200
Tribe composition Baiga/Gond/Panka	Gond, Korka
Name of Sacred Grove	Khedapati Devi
Approximate area in m^2	400
Water bodies	NA
Location of Sacred Grove	Comptt. RF-42
Distance from District	35 km
Distance from Tehsil	25 km.
Distance from Near by village	3 km
Year of existence	35
Tradition (Manyata)	Living offering fulfill the desire.
Name of Deity	Durgaji
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Living offering Goat/Hen, Incense stick, Coconut, Gram, Chirongi (Made up of sugar).
Any devotional Song / Dance/Rituals	Common songs and dance.
Entry Freedom-Y/N Any Specific day	Navratri
Day of Worship	Navratri
Time of Worship	Morning and Evening
On the Festival	Navratri
Rules followed	Common rules
Steps for conservation of sanctity	It is required hand pump for water supply.
Plants and its associates	*Tamarindus indica, Tectona grandis, Diospyros melanoxylon*

Sacred Grove – 14

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukhtawa
Name of Near by Village	Jhunkar
Population	1300 Male 600, Female 700
Tribe composition Baiga/Gond/Panka	Gond, Korka, Katiya, Lohar, Chamar
Name of Sacred Grove	Sadhu Baba
Approximate area in m^2	100
Water bodies	Stream
Location of Sacred Grove	Comptt. RF-64
Distance from District	50 km.
Distance from Tehsil	40 km.
Distance from Near by village	4 km
Year of existence	50
Tradition (Manyata)	Nil
Name of Deity	Sadhubaba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Incense stick, flowers, lemon.
Any devotional Song / Dance/Rituals	Nil
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Everyday
Time of Worship	Not specific
On the Festival	Dashehra, Chaitra Navami
Rules followed	Not specific rule
Steps for conservation of sanctity	Natural water resource need conservation
Plants and its associates	*Terminalia tomentosa, Tectona grandis, Schleichera oleosa, Diospyros melanoxylon, Butea monosperma*

Sacred Grove – 15

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukhtawa
Name of Near by Village	Jhunkar
Population	1300 Male 600, Female 700
Tribe composition Baiga/Gond/Panka	Gond, Korka, Katiya, Lohar, Chamar
Name of Sacred Grove	Khedapati Devi
Approximate area in m^2	100
Water bodies	Nil
Location of Sacred Grove	Comptt. RF-64
Distance from District	80
Distance from Tehsil	40 km.
Distance from Near by village	2 km.
Year of existence	50
Tradition (Manyata)	No living offering allowed.
Name of Deity	Khedapati Devi
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Incense stick, Flowers, Crops.
Any devotional Song / Dance/Rituals	Normally songs and dance.
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Navami
Time of Worship	Morning and Evening
On the Festival	Navami
Rules followed	Normal common rules
Steps for conservation of sanctity	Already conserved by local communities.
Plants and its associates	*Mangifera indica, Tamarindus indica*

Sacred Grove – 16

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukhtawa
Name of Near by Village	Ojhapura
Population	600 Male 300, Female 300
Tribe composition Baiga/Gond/Panka	Gond, Korka, Chamar
Name of Sacred Grove	Mama Bhanja
Approximate area in m^2	2500
Water bodies	Stream
Location of Sacred Grove	Comptt. RF-70 & RF-67
Distance from District	65
Distance from Tehsil	36 km.
Distance from Near by village	2 km
Year of existence	40
Tradition (Manyata)	No living offering allowed.
Name of Deity	Mama Bhanja
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove- Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Incense stick, Gram, Chirongi (Made up of sugar), Pan, Aegle marmelos, Tobacco, Lemon
Any devotional Song / Dance/Rituals	Nil
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desired.
Time of Worship	Not specific.
On the Festival	Not specific
Rules followed	Common rules
Steps for conservation of sanctity	Fully rocky area, surrounded by teak forest with miscellaneous species. Conservation needed.
Plants and its associates	*Tectona grandis, Anogeissus latifolia, Schleichera oleosa, Diospyros melanoxylon, Lagerstroemia parviflora.*

Sacred Grove – 17

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukhtawa
Name of Near by Village	Jalikheda
Population	500 Male 300, Female 200
Tribe composition Baiga/Gond/Panka	Gond
Name of Sacred Grove	Daiyat Baba
Approximate area in m^2	400
Water bodies	Nil
Location of Sacred Grove	Comptt. RF-47
Distance from District	50
Distance from Tehsil	36 km.
Distance from Near by village	2 km.
Year of existence	45
Tradition (Manyata)	Living offering allowed.
Name of Deity	Daiyat Baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Living offering also allowed.
Any devotional Song / Dance/Rituals	Common traditional songs and dance.
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desired.
Time of Worship	Not specific.
On the Festival	Not specific
Rules followed	Common rules followed.
Steps for conservation of sanctity	Adjoining area needed fencing to prevent biotic pressure.
Plants and its associates	*Tectona grandis, Terminalia tomentosa, Madhuca indica, Diospyros melanoxylon, Anogeissus latifolia*

Sacred Grove – 18

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukhtawa
Name of Near by Village	Jalikheda
Population	500 Male 300, Female 200
Tribe composition Baiga/Gond/Panka	Gond, Korka
Name of Sacred Grove	Mithiya Baba
Approximate area in m^2	100
Water bodies	Nil
Location of Sacred Grove	Comptt. RF-48
Distance from District	55
Distance from Tehsil	38 km.
Distance from Near by village	3 km
Year of existence	50
Tradition (Manyata)	Peoples desires are fulfilled by living offerings
Name of Deity	Mithiya Baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Living offering also allowed.
Any devotional Song / Dance/Rituals	Common traditional songs and dance.
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desired.
Time of Worship	Not specific.
On the Festival	Nil
Rules followed	Common rules.
Steps for conservation of sanctity	Area is already covered by teak plantation.
Plants and its associates	*Tectona grandis* plantation of F.D.A.

Sacred Grove – 19

District	Hoshangabad
Tehsil	Itarsi
Block	Kesla
Forest Range	Sukhtawa
Name of Near by Village	CPE range
Population	Nil
Tribe composition Baiga/Gond/Panka	Nil
Name of Sacred Grove	Khedapati Mai
Approximate area in m^2	400
Water bodies	Nil
Location of Sacred Grove	In the CPE area undertaken by defense of trial borns.
Distance from District	45
Distance from Tehsil	40 km.
Distance from Near by village	5 km
Year of existence	100
Tradition (Manyata)	No living offering allowed.
Name of Deity	Khedapati Mai
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Incense stick, Flowers.
Any devotional Song / Dance/Rituals	Nil
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desired.
Time of Worship	Not specific.
On the Festival	Navratri
Rules followed	Not specific rules follwed
Steps for conservation of sanctity	Area is already protected by CPE i.e. defense explosive testing area.
Plants and its associates	*Tectona grandis, Schleichera oleosa, Anogeissus latifolia, Diospyros melanoxylon, Butea monosperma*

Sacred Grove – 20

District	Hoshangabad
Tehsil	Seoni malwa
Block	Seoni malwa
Forest Range	Seoni Malwa
Name of Near by Village	Amakatara
Population	300 Male 150, Female 150
Tribe composition Baiga/Gond/Panka	Gond, Korka, Thatiya, Gwale
Name of Sacred Grove	Bhootkahu
Approximate area in m^2	400
Water bodies	River
Location of Sacred Grove	Revenue land but adjoining to forest land and bank of river which makes forest division boundary
Distance from District	55
Distance from Tehsil	45 km.
Distance from Near by village	4 km.
Year of existence	100
Tradition (Manyata)	Bed spirits removed quickly by prayers.
Name of Deity	Bhootkahu
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Gram, Incense stick, Dhoop, Citrus aurantifolia.
Any devotional Song / Dance/Rituals	Common Puja.
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desired.
Time of Worship	Not specific.
On the Festival	Not specific
Rules followed	No living offering allowed.
Steps for conservation of sanctity	River Bank. Boundary of forest division. No need of conservation
Plants and its associates	*Terminalia tomentosa, Tectona grandis, Schleichera oleosa, Anthocephalus cadamba*

Sacred Grove – 21

District	Hoshangabad
Tehsil	Seoni malwa
Block	Seoni malwa
Forest Range	Seoni Malwa
Name of Near by Village	Amakatara
Population	300 Male 150, Female 150
Tribe composition Baiga/Gond/Panka	Gond, Korka
Name of Sacred Grove	Peer Baba
Approximate area in m^2	100
Water bodies	Nil
Location of Sacred Grove	Comptt. 186 on the road side.
Distance from District	55
Distance from Tehsil	40 km.
Distance from Near by village	1 km.
Year of existence	30
Tradition (Manyata)	No Coconut offered.
Name of Deity	Peer Baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Dhoop, Sents, Incense stick, Gulab mala
Any devotional Song / Dance/Rituals	Nil
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Not specific.
Time of Worship	Not specific.
On the Festival	On the occasion of Iddulfitture and muhharam people come and pary.
Rules followed	All person passes through road worshiped.
Steps for conservation of sanctity	Fancing is needed in plantation area.
Plants and its associates	*Terminalia tomentosa, Tectona grandis, Schleichera oleosa, Angogeissus latifolia, Holoptelia integrifolia, Diospyros melanoxylon, Butea monosperma*

Sacred Grove – 22

District	Hoshangabad
Tehsil	Seoni malwa
Block	Seoni malwa
Forest Range	Seoni Malwa
Name of Near by Village	Harrai
Population	600 Male 300, Female 300
Tribe composition Baiga/Gond/Panka	Gond, Korka and Adivashi
Name of Sacred Grove	Jango Bai
Approximate area in m^2	2500
Water bodies	Nil
Location of Sacred Grove	Comptt. 184, Border Betul-Hoshangabad boundary.
Distance from District	60
Distance from Tehsil	42 km.
Distance from Near by village	1 km.
Year of existence	100
Tradition (Manyata)	All illed cow/oxes as well as people iled become healthy after worship.
Name of Deity	Jango Bai
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Citrus aurantifolia, Incense stick, Flowers, Sindor.
Any devotional Song / Dance/Rituals	Nil
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Not specific.
Time of Worship	Not specific.
On the Festival	Not fixed as per people desired.
Rules followed	Common rules followed
Steps for conservation of sanctity	Sacred grove is situated in the natural conserved forest area, no need extra conservation efforts.
Plants and its associates	*Terminalia tomentosa, Tectona grandis, Schleichera oleosa, Holoptelia integrifolia, Butea monosperma*

Sacred Grove – 23

District	Hoshangabad
Tehsil	Seoni Malwa
Block	Seoni Malwa
Forest Range	Seoni Malwa
Name of Near by Village	Gangia
Population	350 Male 200, Female 150
Tribe composition Baiga/Gond/Panka	Gond, Korka and Balai
Name of Sacred Grove	Aala Okhli
Approximate area in m^2	400
Water bodies	River, Water is not dried here.
Location of Sacred Grove	Comptt. 190 Seoni side – Harda
Distance from District	45
Distance from Tehsil	40 km.
Distance from Near by village	4
Year of existence	150
Tradition (Manyata)	After taking bath in this river people worshipe
Name of Deity	Unknown god
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Gram, Orange fruit, Incense stick.
Any devotional Song / Dance/Rituals	Traditional song and dance performed during occasion before rains started
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desired.
Time of Worship	Every day
On the Festival	Dashera, Baisakh
Rules followed	Common rules
Steps for conservation of sanctity	Public awareness is needed.
Plants and its associates	*Terminalia tomentosa, Tectona grandis, Schleichera oleosa, Butea monosperma*

Sacred Grove – 24

District	Hoshangabad
Tehsil	Seoni Malwa
Block	Seoni Malwa
Forest Range	Barapura
Name of Near by Village	Napupura
Population	350 Male 150, Female 200
Tribe composition Baiga/Gond/Panka	Gond, Korka
Name of Sacred Grove	Gadbad Baba
Approximate area in m^2	400
Water bodies	Stream
Location of Sacred Grove	Comptt. RF-14
Distance from District	35
Distance from Tehsil	38 km.
Distance from Near by village	3 km.
Year of existence	100
Tradition (Manyata)	All dishappring are destroyed.
Name of Deity	Gadbad Baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Agarabatti, Flowers, Dhoop, Coconut, Orange fruit.
Any devotional Song / Dance/Rituals	Traditional puja is performed during occasion.
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desired.
Time of Worship	Not specific.
On the Festival	Nil
Rules followed	Normal rules followed.
Steps for conservation of sanctity	Fancing required to prevent biotic pressure
Plants and its associates	*Terminalia tomentosa, Tectona grandis, Schleichera oleosa, Holoptelia integrifolia, Diospyros melanoxylon, Butea monosperma*

Sacred Grove – 25

District	Hoshangabad
Tehsil	Seoni Malwa
Block	Seoni Malwa
Forest Range	Barapura
Name of Near by Village	Kailajir
Population	800 Male 600, Female 200
Tribe composition Baiga/Gond/Panka	Gond, Korka, Chamar
Name of Sacred Grove	Panel Shiv Mandir
Approximate area in m^2	400
Water bodies	Stream
Location of Sacred Grove	Comptt. 264
Distance from District	40 km.
Distance from Tehsil	33 km.
Distance from Near by village	3 km.
Year of existence	50
Tradition (Manyata)	Pure natural water resource will made healthy to people.
Name of Deity	Shiv Bhagwan
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Gram, Chirongi (Made up of sugar), Incense stick, Orange fruits, Flowers
Any devotional Song / Dance/Rituals	Traditional songs and dance performed during Shivratri
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desired.
Time of Worship	Not specific.
On the Festival	Shivratri Mela (3 days)
Rules followed	No living offering allowed.
Steps for conservation of sanctity	Natural forest area.
Plants and its associates	*Anogeissus latifoliada, Holoptelia integrifolia, Diospyros melanoxylon, Butea monosperma*

Sacred Grove – 26

District	Hoshangabad
Tehsil	Seoni Malwa
Block	Seoni Malwa
Forest Range	Barapura
Name of Near by Village	Nayagaon
Population	250 Male 150, Female 100
Tribe composition Baiga/Gond/Panka	Gond, Korka, Adivasi
Name of Sacred Grove	Babdi
Approximate area in m^2	2500
Water bodies	Stream
Location of Sacred Grove	Comptt. RF-4
Distance from District	40 km
Distance from Tehsil	34 km.
Distance from Near by village	2 km.
Year of existence	100
Tradition (Manyata)	Drinking water of Pure natural water resource made people healthy .
Name of Deity	Bori Devi
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	No living offering.
Any devotional Song / Dance/Rituals	Coconut, Gram, Chirongi (Made up of sugar), Flowers, Dhoop
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desired.
Time of Worship	Not specific.
On the Festival	Nil
Rules followed	Puja done during each festival. People get to gather compulsory.
Steps for conservation of sanctity	Natural forest area. Public awareness needed.
Plants and its associates	*Terminalia tomentosa, Tectona grandis, Schleichera oleosa, Diospyros melanoxylon, Butea monosperma*

Sacred Grove – 27

District	Hoshangabad
Tehsil	Seoni Malwa
Block	Seoni Malwa
Forest Range	Barapura
Name of Near by Village	Bhamda
Population	300 Male 150, Female 150
Tribe composition Baiga/Gond/Panka	Gond, Korka
Name of Sacred Grove	Chicha Baba (Imliwalebaba)
Approximate area in m^2	100
Water bodies	Stream
Location of Sacred Grove	Comptt. RF-14
Distance from District	40 km
Distance from Tehsil	36 km.
Distance from Near by village	2 km.
Year of existence	100
Tradition (Manyata)	All desire is complete by offering red flowers.
Name of Deity	Chicha Baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Living offering. Incense stick, Sindor.
Any devotional Song / Dance/Rituals	Traditional songs and dance.
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per desired of villagers.
Time of Worship	Not specific.
On the Festival	Not specific
Rules followed	All villagers get to gather and offer living things with wine.
Steps for conservation of sanctity	Natural forest area, no need of conservation
Plants and its associates	*Terminalia tomentosa, Tectona grandis, Schleichera oleosa, Anogeissus latifoliada, Holoptelia integrifolia, Butea monosperma*

Sacred Grove – 28

District	Hoshangabad
Tehsil	Seoni Malwa
Block	Seoni Malwa
Forest Range	Barapura
Name of Near by Village	Kailajhir
Population	800 Male 600, Female 200
Tribe composition Baiga/Gond/Panka	Gond, Korka
Name of Sacred Grove	Garden Baba
Approximate area in m^2	100
Water bodies	Nil
Location of Sacred Grove	Comptt. 264
Distance from District	55
Distance from Tehsil	33 km.
Distance from Near by village	2 km
Year of existence	100
Tradition (Manyata)	All desires are fulfil when offer coconut and peace of stone.
Name of Deity	Garden Baba
Other Deity if any	Roridevi
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Incense stick, Flowers, peice of stone
Any devotional Song / Dance/Rituals	Traditional songs and dance.
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Every day as per desired of people.
Time of Worship	Not specific.
On the Festival	Not specific
Rules followed	No living offering allowed.
Steps for conservation of sanctity	Sacred grove is on the road side. People awerness nedded.
Plants and its associates	*Terminalia tomentosa, Tectona grandis, Schleichera oleosa, Diospyros melanoxylon, Butea monosperma,Poenix acualis*

Sacred Grove – 29

District	Hoshangabad
Tehsil	Bankhedi
Block	Bankhedi
Forest Range	Bankhedi
Name of Near by Village	Fathehpur
Population	200 Male 120, Female 80
Tribe composition Baiga/Gond/Panka	Gond, Adivasi, Yadav, Harijan, Momdons
Name of Sacred Grove	Sayyad Baba ki Mazar
Approximate area in m^2	2500
Water bodies	Pond
Location of Sacred Grove	Comptt. P-340
Distance from District	60 km
Distance from Tehsil	11 km.
Distance from Near by village	2 km.
Year of existence	150
Tradition (Manyata)	All the desires are fulfil by prayers.
Name of Deity	Sayyad Baba
Other Deity if any	Shaill Saheb Baba
Name of Guniya / Priest	Mr. Lal Khan
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Flower, Sent, Gram, Chiroungi,
Any devotional Song / Dance/Rituals	Normal traditional Namaz has been prayed.
Entry Freedom-Y/N Any Specific day	Thursday
Day of Worship	Thursday
Time of Worship	As per a person desire
On the Festival	Muhharrm and Ide
Rules followed	Traditional rues followed
Steps for conservation of sanctity	Natural forest area. Public awareness needed
Plants and its associates	*Tectona grandis, Chlorophytum arundinaceum, Buchanania lanzan, Madhuca indica, Lagerstroemia parviflora, Annona squamosa, Chloroxylon swieteria, Butea monosperma*

Sacred Grove – 30

District	Hoshangabad
Tehsil	Babaii
Block	Babaii
Forest Range	Babaii
Name of Near by Village	Dob/Dhaii
Population	400 Male 150, Female 120, Childran 130
Tribe composition Baiga/Gond/Panka	Gond, Korka, Adivasi
Name of Sacred Grove	Siddha Baba (Dolaniya)
Approximate area in m^2	2500
Water bodies	Pond, Stream, Handpump
Location of Sacred Grove	Revenue land but adjoining to forest land
Distance from District	55
Distance from Tehsil	20 km.
Distance from Near by village	1.5 km.
Year of existence	60
Tradition (Manyata)	For the good rainfall puja has been performed
Name of Deity	Siddha Baba
Other Deity if any	Hanuman, Nandi, Shani, Shankar
Name of Guniya / Priest	NA
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Incense stick, Flowers, lemon
Any devotional Song / Dance/Rituals	Normally traditional songs sung during puja.
Entry Freedom-Y/N Any Specific day	Yes Monday
Day of Worship	Morning
Time of Worship	Friday
On the Festival	Shivratri, Navdurga.
Rules followed	Common rules followed
Steps for conservation of sanctity	Natural water body which flow full year. It may be conserved through stop dam.
Plants and its associates	*Tectona grandis, Terminalia tomentosa, Azadirachta indica, Curculigo orchioides, BuGramnia lanzan, Emblica officinalis, Madhuca indica, Helicteres isora, Cassia, Soymida febrifuga, Lagerstroemia parviflora, Woodfordia floribunda, Angogeissus latifolia, Butea monosperma.*

Sacred Grove – 31

District	Hoshangabad
Tehsil	Bankhedi
Block	Bankhedi
Forest Range	Bagda
Name of Near by Village	Raj Dam Village
Population	350 Male 150, Female 200
Tribe composition Baiga/Gond/Panka	Gond, Adivasi
Name of Sacred Grove	Banjari mai
Approximate area in m^2	400
Water bodies	Tawa river
Location of Sacred Grove	Comptt. No 231.
Distance from District	55 km
Distance from Tehsil	18 km.
Distance from Near by village	1 km.
Year of existence	50
Tradition (Manyata)	No live offering.
Name of Deity	Banjari mata.
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	No live offering allowed
Any devotional Song / Dance/Rituals	Traditional song and rituals performed
Entry Freedom-Y/N Any Specific day	Yes not specific
Day of Worship	As per people desire
Time of Worship	Not specific
On the Festival	Shivratri, Navdurga.
Rules followed	Common rules followed
Steps for conservation of sanctity	Bagda Dam road side in the natural forest arae.
Plants and its associates	*Tectona grandis, Helicteres isora, Cassia tora, Annona squamosa*

Sacred Grove – 32

District	Hoshangabad
Tehsil	Bankhedi
Block	Bankhedi
Forest Range	Bagda
Name of Near by Village	Raj Dam
Population	500, Male 250, Female 250
Tribe composition Baiga/Gond/Panka	Gond
Name of Sacred Grove	Imliwale Baba
Approximate area in m^2	400
Water bodies	Tawa River
Location of Sacred Grove	Comptt. No. RF - 220
Distance from District	60 km
Distance from Tehsil	25 km
Distance from Near by village	2 km
Year of existence	50
Tradition (Manyata)	No live offering.
Name of Deity	Imliwale Baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove- Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Incense stick, Flowers
Any devotional Song / Dance/Rituals	Normal Puja
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	Not specific
On the Festival	During need of local people they went and worship.
Rules followed	Common rules followed
Steps for conservation of sanctity	In the forested area on the Bagda Dam road side. Public awareness needed
Plants and its associates	*Tectona grandis, Helicteres isora, Cassia tora, Annona squamosa*

Sacred Grove – 33

District	Hoshangabad
Tehsil	Babaii
Block	Babaii
Forest Range	Bagda
Name of Near by Village	Paraspani
Population	500, Male 250, Female 250
Tribe composition Baiga/Gond/Panka	Gond
Name of Sacred Grove	Dugariya wale baba
Approximate area in m^2	100
Water bodies	Nil
Location of Sacred Grove	Comptt. No. RF-224
Distance from District	60
Distance from Tehsil	33
Distance from Near by village	4 km.
Year of existence	50
Tradition (Manyata)	No live offering.
Name of Deity	Dugariya wale baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Incense stick, Flowers
Any devotional Song / Dance/Rituals	Traditional songs and dance performed
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	Not specific
On the Festival	As per people desired.
Rules followed	No specific rules followed
Steps for conservation of sanctity	Public awareness is needed
Plants and its associates	*Tamarindus indica, Tectona grandis, Butea monosperma, Syzygium cumini, Lantana camara*

Sacred Grove – 34

District	Hoshangabad
Tehsil	Babaii
Block	Babaii
Forest Range	Bagda
Name of Near by Village	Bagda
Population	2600, Male 1400, Female 1200
Tribe composition Baiga/Gond/Panka	Gond, Advasi and all casts
Name of Sacred Grove	Khokhla mata
Approximate area in m^2	100
Water bodies	NA
Location of Sacred Grove	Comptt. No. RF-224
Distance from District	68
Distance from Tehsil	20
Distance from Near by village	2.5 km.
Year of existence	100
Tradition (Manyata)	No live offering.
Name of Deity	Khokhlamata
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Incense stick, Flowers
Any devotional Song / Dance/Rituals	Traditional songs and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	Not specific
On the Festival	Navdurga
Rules followed	Common rules followed
Steps for conservation of sanctity	Public awareness needed
Plants and its associates	*Tamarindus indica, Tectona grandis, Butea monosperma, Lantana camara, Madhuca indica*

Sacred Grove – 35

District	Hoshangabad
Tehsil	Babaii
Block	Babaii
Forest Range	Bagda
Name of Near by Village	Bagda
Population	2600, Male 1400, Female 1200
Tribe composition Baiga/Gond/Panka	Gond, Adivasi
Name of Sacred Grove	Siddha Baba
Approximate area in m^2	400
Water bodies	Stream
Location of Sacred Grove	Comptt. No. RF-224
Distance from District	120
Distance from Tehsil	25
Distance from Near by village	3 km.
Year of existence	50
Tradition (Manyata)	No live offering.
Name of Deity	Siddha Baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Incense stick, Flowers, wine, chicken
Any devotional Song / Dance/Rituals	Traditional songs and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	Not specific
On the Festival	As per people desired.
Rules followed	Normal rules.
Steps for conservation of sanctity	Fancing and plantation needed.
Plants and its associates	*Terminalia tomentosa, Angogeissus latifoliada, Butea monosperma*

Sacred Grove – 36

District	Hoshangabad
Tehsil	Babaii
Block	Babaii
Forest Range	Bagratawa
Name of Near by Village	Parsapani
Population	150, Male 80, Female 70
Tribe composition Baiga/Gond/Panka	Dominative
Name of Sacred Grove	Banjari mata
Approximate area in m^2	400
Water bodies	Nil
Location of Sacred Grove	Comptt. No. RF-229
Distance from District	100
Distance from Tehsil	17 km.
Distance from Near by village	4 km.
Year of existence	60
Tradition (Manyata)	No live offering.
Name of Deity	Banjari mata
Other Deity if any	Nil
Name of Guniya / Priest	*Nil*
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Gram, Chirongi (Made up of sugar), Flowers, Sindoor
Any devotional Song / Dance/Rituals	Traditional puja
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	Any time
On the Festival	Not specific
Rules followed	Normal rules.
Steps for conservation of sanctity	People awareness is needed
Plants and its associates	*Tectona grandis, Terminalia tomentosa, Adina cordifolia, Sisham, Mangifera indica, Anogeissus latifolia, Ghirriya, Aegle marmelos, Terminalia bellirica, Emblica officinalis, BuGramnia lanzan, Diospyros melanoxylon, Madhuca indica, Soymida febrifuga, Lagerstroemia parviflora, Papda, Kullu, Dawaii, Terminalia tomentosa, Butea monosperma, Chlorophytum arundinaceum*

Sacred Grove – 37

District	Hoshangabad
Tehsil	Sohagpur
Block	Sohagpur
Forest Range	Sohagpur
Name of Near by Village	Pattan
Population	600, Male 400, Female 200
Tribe composition Baiga/Gond/Panka	Dominated
Name of Sacred Grove	Jamunihiria
Water bodies	Pond, Stream
Location of Sacred Grove	Comptt. no. RF-258
Approximate area in m^2	400
Distance from District	95
Distance from Tehsil	36 km.
Distance from Near by village	2 km.
Year of existence	100
Tradition (Manyata)	Newly born crops can be offering by god and than can be taken as food.
Name of Deity	Siddha Baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	No live offering
Any devotional Song / Dance/Rituals	Traditional Dance and songs during puja
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	Any time
On the Festival	Amasvas, Puna and Chaitra
Rules followed	Normal rules.
Steps for conservation of sanctity	Public awareness is needed.
Plants and its associates	*Tectona grandis, Terminalia tomentosa, Adina cordifolia, Sisham, Mangifera indica, Anogeissus latifolia, Ghirriya, Aegle marmelos, Terminalia bellirica, Emblica officinalis, Buchanania lanzan, Diospyros melanoxylon, Madhuca indica, Soymida febrifuga, Lagerstroemia parviflora, Gardenia latifolia, Sterculia urens, Woodfordia fruiticosa, Terminalia tomentosa, Butea monosperma, Chlorophytum arundinaceum*

Sacred Grove – 38

District	Hoshangabad
Tehsil	Sohagpur
Block	Sohagpur
Forest Range	Sohagpur
Name of Near by Village	Kukra
Population	700, Male 400, Female 300
Tribe composition Baiga/Gond/Panka	Dominated, Gond
Name of Sacred Grove	Jamani deo
Approximate area in m^2	2500
Water bodies	Pond
Location of Sacred Grove	Comptt. no. RF-258
Distance from District	90
Distance from Tehsil	36 km.
Distance from Near by village	3 km.
Year of existence	100
Tradition (Manyata)	Newly born crops can be offering by god and than can be taken as food.
Name of Deity	Jamani devi
Other Deity if any	Banjari mata
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Incense stick, Flower, Gram, Chirongi (Made up of sugar)
Any devotional Song / Dance/Rituals	Traditional Dance and songs during
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	Any time
On the Festival	Navdurga, Kuwar, Chaitra
Rules followed	Normal rules.
Steps for conservation of sanctity	Natural water resources. Water resources may be conserving as stop dam. Medicinal plants may be cultivated; A tourist point may be established .
Plants and its associates	*Tectona grandis, Terminalia tomentosa, Adina cordifolia, Dalbergia latifolia, Mangifera indica, Anogeissus latifolia, Aegle marmelos, Terminalia bellirica, Emblica officinalis, BuGramnia lanzan, Diospyros melanoxylon, Madhuca indica, Soymida febrifuga, Lagerstroemia parviflora, Gardenia latifolia, Sterculia urens, Woodfordia fruiticosa, Terminalia tomentosa, Butea monosperma, Chlorophytum arundinaceum,Bombax ceiba,*

Sacred Grove – 39

District	Hoshangabad
Tehsil	Sohagpur
Block	Sohagpur
Forest Range	Sohagpur
Name of Near by Village	Singhwada
Population	1500, Male 800, Female 700
Tribe composition Baiga/Gond/Panka	Gond, Katiya, Gujar, Kachi, Nai, Chamar, Brahman, Pandit
Name of Sacred Grove	Khedapati Laliya
Approximate area in m^2	400
Water bodies	Stream
Location of Sacred Grove	Comptt. no. RF-275
Distance from District	85
Distance from Tehsil	8 km.
Distance from Near by village	1 km.
Year of existence	75
Tradition (Manyata)	Nil
Name of Deity	Khedapati devi
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Incense stick, Flower, Gram, Chirongi (Made up of sugar)
Any devotional Song / Dance/Rituals	Natural traditional dance and song
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	Any time
On the Festival	Navmi, Chaitra, Kuwar
Rules followed	Normal rules.
Steps for conservation of sanctity	Public awareness is needed
Plants and its associates	*Tectona grandis, Aegle marmelos, Tamarindus indica , Terminalia tomentosa, Acacia leucophloca, Butea monosperma, Feronia limonia, Diospyros melanoxylon, Emblica officinalis, Buchanania lanzan, Lagerstroemia parviflora, Schleichera oleosa*

Sacred Grove – 40

District	Hoshangabad
Tehsil	Sohagpur
Block	Sohagpur
Forest Range	Sohagpur
Name of Near by Village	Nibhora
Population	2000, Male 1200, Female 800
Tribe composition Baiga/Gond/Panka	Gond, Katiya, Gujar, Kachi, Nai, Chamar, Basor, Sahu
Name of Sacred Grove	Mandra Baba (Nibhora beat)
Approximate area in m^2	400
Water bodies	NA
Location of Sacred Grove	Comptt. No. RF-287
Distance from District	85
Distance from Tehsil	12 km.
Distance from Near by village	2.5 km.
Year of existence	50
Tradition (Manyata)	Nil
Name of Deity	Khode Baba (Mandra Baba)
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Chirongi (Made up of sugar), Incense stick, Flowers, Stone
Any devotional Song / Dance/Rituals	Traditional song
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	Any time
On the Festival	As per people desire
Rules followed	NA
Steps for conservation of sanctity	fancing and plantation are needed
Plants and its associates	*Mangifera indica, Mitragyna parvifolia, Aegle marmelos, Terminalia tomentosa, Soymida febrifuga, Madhuca indica, Emblica officinalis, Tectona grandis, Miliusa tomentosa, Adina cordifolia*

Sacred Grove – 41

District	Hoshangabad
Tehsil	Sohagpur
Block	Sohagpur
Forest Range	Sohagpur
Name of Near by Village	Nibhora
Population	2000, Male 1200, Female 800
Tribe composition Baiga/Gond/Panka	Gond, Gujar, Basor, Sahu, Katiya
Name of Sacred Grove	Telibaba
Approximate area in m^2	400
Water bodies	Nil
Location of Sacred Grove	Comptt. No. RF-286
Distance from District	80
Distance from Tehsil	12 km.
Distance from Near by village	1.5 km.
Year of existence	60
Tradition (Manyata)	Nil
Name of Deity	Telibaba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Chirongi (Made up of sugar), Incense stick, Flowers, Stone
Any devotional Song / Dance/Rituals	Traditional song and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	Not specific
On the Festival	As per people desire
Rules followed	Common rules followed
Steps for conservation of sanctity	People awareness is needed
Plants and its associates	*Mitragyna parvifolia, Aegle marmelos, Terminalia tomentosa, Madhuca indica, Lagerstroemia parviflora, Acacia leucophloca,Diospyros melanoxylon*

Sacred Grove – 42

District	Hoshangabad
Tehsil	Sohagpur
Block	Sohagpur
Forest Range	Sohagpur
Name of Near by Village	Pathrai Paraswara
Population	1500, Male 800, Female 700
Tribe composition Baiga/Gond/Panka	Gond, Harijan, Gujar, Kachi, Manchi, Dhobi, Kotwar
Name of Sacred Grove	Siddha baba
Approximate area in m^2	400
Water bodies	Stream
Location of Sacred Grove	Comptt. no. RF-285
Distance from District	80
Distance from Tehsil	15km.
Distance from Near by village	3 km.
Year of existence	100
Tradition (Manyata)	Nil
Name of Deity	Siddha baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Chirongi (Made up of sugar), Incense stick, Flowers
Any devotional Song / Dance/Rituals	Traditional song and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	Not specific
On the Festival	All festivals.
Rules followed	Not specific
Steps for conservation of sanctity	Fancing and public awareness is needed.
Plants and its associates	*Terminalia arjuna, Tectona grandis, Madhuca indica, Anogeissus latifolia, Buchanania lanzan, Emblica officinalis, Aegle marmelos, Curculigo orchioides, Annatmul, Woodfordia floribunda, Helicteres isora, Evolvulus alsinoides, Parthenium hysterophorus, Ephorbia hirita, Tephroria pupurea*

Sacred Grove – 43

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	STR Pachmari
Name of Near by Village	Binora
Population	100, Male 60, Female 40
Tribe composition Baiga/Gond/Panka	Gond, Korku, Bhariya
Name of Sacred Grove	Mahadeo
Approximate area in m^2	2500
Water bodies	Pond, Hand pump, Nalla (Natural)
Location of Sacred Grove	Comptt. No. PF-252
Distance from District	78
Distance from Tehsil	64 km.
Distance from Near by village	8 km.
Year of existence	200
Tradition (Manyata)	Every newly married couple visit to fulfill their desire of son.
Name of Deity	Shankarji
Other Deity if any	Parwati, Kal bharav, Chandrika devi
Name of Guniya / Priest	Mr. Vadanti
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Chirongi (Made up of sugar), Incense stick, Flower,Trishul
Any devotional Song / Dance/Rituals	Traditional song and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	Monday
On the Festival	Shivratri, nagpanchmi, Holi, Rakshabandhan, Shivji, Ki sadi, Guru purnima ,Kartike purnima.
Rules followed	Common rules followed
Steps for conservation of sanctity	Plantation and fancing is needed
Plants and its associates	*Mangifera indica, Mitragyna parvifolia, Aegle marmelos, Terminalia tomentosa, Madhuca indica*

Sacred Grove – 44

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	STR Pachmari
Name of Near by Village	Binora
Population	100, Male 60, Female 40
Tribe composition Baiga/Gond/Panka	Gond, Korku, Bhariya
Name of Sacred Grove	Gupth Mahadeo
Approximate area in m^2	400
Water bodies	Pond, Handpump, Nalla (Natural)
Location of Sacred Grove	Comptt. No. PF-252
Distance from District	80 km.
Distance from Tehsil	64 km.
Distance from Near by village	8 km.
Year of existence	200
Tradition (Manyata)	Every newly married couple visit to fulfill their desire of son.
Name of Deity	Shankarji
Other Deity if any	Parwati, Kal bharav, Chandrika devi
Name of Guniya / Priest	Mr. Garib das
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Chirongi (Made up of sugar), Incense stick, Flower,Trishul
Any devotional Song / Dance/Rituals	Traditional song and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	Not specific
On the Festival	Shivratri, nagpanchmi, Holi, Rakshabandhan, Shivji, Ki sadi, Guru purnima, Kartik purnima.
Rules followed	Common rules followed
Steps for conservation of sanctity	Public awareness is needed
Plants and its associates	*Mangifera indica, Mitragyna parvifolia, Aegle marmelos, Terminalia tomentosa, Madhuca indica, Lagerstroemia parviflora, Acacia leucophloca, Diospyros melanoxylon*

Sacred Grove – 45

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	STR Pachmari
Name of Near by Village	Binora
Population	100, Male 60, Female 40
Tribe composition Baiga/Gond/Panka	Gond, Korku, Bhariya
Name of Sacred Grove	Chawraghad
Approximate area in m^2	2500
Water bodies	Stream
Location of Sacred Grove	Comptt. No. PF-252
Distance from District	68
Distance from Tehsil	67 km.
Distance from Near by village	8 km.
Year of existence	200
Tradition (Manyata)	Offered Trisul for fulfil their desire
Name of Deity	Shankarji
Other Deity if any	Parwati , Ganesha
Name of Guniya / Priest	Mr Ganesh baba
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Goat, Hen as per desire of people will.
Any devotional Song / Dance/Rituals	Traditional song and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Monday
Time of Worship	15 day before shivratri
On the Festival	Shivratri upto 15 days
Rules followed	Entry without lather items.
Steps for conservation of sanctity	Area is situated in Satpura sanctuary , Public awareness is needed
Plants and its associates	*Mangifera indica, Mitragyna parvifolia, Aegle marmelos, Terminalia tomentosa, Tectona grandis, Miliusa tomentosa, Lagerstroemia parviflora*

Sacred Grove – 46

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	STR Pachmari
Name of Near by Village	Baria
Population	150, Male 80, Female 70
Tribe composition Baiga/Gond/Panka	Gond,deodhari,Mawari, Korku
Name of Sacred Grove	Rock painting Mahadeo.
Approximate area in m^2	400
Water bodies	Nil
Location of Sacred Grove	Comptt. no. P-269
Distance from District	68
Distance from Tehsil	67 km.
Distance from Near by village	8 km.
Year of existence	200
Tradition (Manyata)	local people prayed here for their dead family members peace of their sol.
Name of Deity	Shankarji
Other Deity if any	Parwati, Ganesha
Name of Guniya / Priest	Mr Ganesh baba
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Goat, Hen as per desire of people will.
Any devotional Song / Dance/Rituals	Traditional song and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Monday
Time of Worship	15 day before shivratri
On the Festival	Shivratri upto 15 days
Rules followed	Not specific
Steps for conservation of sanctity	Area is situated in Satpura sanctuary, public awareness is needed.
Plants and its associates	*Terminalia tomentosa, Ghirria, BuGramnia lanzan, Madhuca indica, Lagerstroemia parviflora, Curculigo orchioides, Mangifera indica, Anola, Angogeissus latifolia, Shorea rabusta, Lantana camara, Pheonix sylvestris*

Sacred Grove – 47

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	STR Pachmari
Name of Near by Village	Baria
Population	150, Male 80, Female 70
Tribe composition Baiga/Gond/Panka	Gond, deodhari, Mawari, Korku
Name of Sacred Grove	Khedapati mai
Approximate area in m^2	100
Water bodies	N.A
Location of Sacred Grove	Comptt. No. P-269
Distance from District	60 km
Distance from Tehsil	67 km.
Distance from Near by village	0.5 km.
Year of existence	100
Tradition (Manyata)	NA
Name of Deity	Kheda pati
Other Deity if any	Parwati, Ganesha
Name of Guniya / Priest	Mr Ganesh baba
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	No living offering
Any devotional Song / Dance/Rituals	Traditional song and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Monday
Time of Worship	15 day before shivratri
On the Festival	Navdurga navarati,chatra
Rules followed	Entry without lather shoes and belt.
Steps for conservation of sanctity	Need fancing and plantation
Plants and its associates	*Mangifera indica, Aegle marmelos, Terminalia tomentosa, Soymida febrifuga, Madhuca indica,*

Sacred Grove – 48

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Pachmari
Name of Near by Village	Rorighat
Population	285, Male 77, Female 73 Childern 135
Tribe composition Baiga/Gond/Panka	Korku, Mavasi
Name of Sacred Grove	Banjarimata (Vandevi)
Approximate area in m^2	100
Water bodies	Natural water resources
Location of Sacred Grove	West Pachmarhi, Comptt. no. P-254
Distance from District	157 km
Distance from Tehsil	72 km.
Distance from Near by village	3 km.
Year of existence	100
Tradition (Manyata)	Protection from wild animals
Name of Deity	Banjarimata
Other Deity if any	Kaliji, vandevi, gadivanbaba
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, halwa, incense stick
Any devotional Song / Dance/Rituals	Traditional song and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	As per people desire
On the Festival	Navdurga and navarati
Rules followed	Not specific
Steps for conservation of sanctity	Conservation through Bamboo plantation has already been done but public awareness and proper care of this plantation is needed.
Plants and its associates	*Dandrocalamus strictus, Mangifera indica, Lantana camara, Madhuca indica, Emblica officinalis, Diospyros melanoxylon, Shorea robusta, Terminalia chebula, Cassia fistula, Syzigum cumunii, Buchnania lanzan, Phoenix sylvestre*

Sacred Grove – 49

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	STR Pachmari
Name of Near by Village	Pagarra
Population	250, Male 150, female 150
Tribe composition Baiga/Gond/Panka	Korku, mewari, gond
Name of Sacred Grove	Shankarji
Approximate area in m^2	100
Water bodies	nala manjushri 100m
Location of Sacred Grove	Comptt. No. P-240
Distance from District	160 km
Distance from Tehsil	13 km.
Distance from Near by village	3 km.
Year of existence	100
Tradition (Manyata)	Prayer for peace of soul of dead person.
Name of Deity	Shankar ji
Other Deity if any	Shankarji
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Chicken, Goat, Lemon, coconut, incense sticks. Tectona grandis wood can placed in the name of dead person
Any devotional Song / Dance/Rituals	Traditional song and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	As per people desire
Time of Worship	15 day before shivratri
On the Festival	Navdurga navarati,chatra
Rules followed	Not specific
Steps for conservation of sanctity	Public awarteness is needed
Plants and its associates	*Terminalia tomentosa, Gmelina arborea, Mangifera indica, Emblica officinalis, Syzygium cumini, Manilkara hexandra, Buchanania lanzan, Terminalia bellirica, Lagerstroemia parviflora, Anogeissus latifolia, Syzygium cumini.*

Sacred Grove – 50

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	STR Pachmari
Name of Near by Village	Pagarra
Population	250, Male 150, female 150
Tribe composition Baiga/Gond/Panka	Korku, mewari, gond
Name of Sacred Grove	Sidda baba
Approximate area in m^2	100
Water bodies	Nil
Location of Sacred Grove	Comptt. No. P-234
Distance from District	65
Distance from Tehsil	13 km.
Distance from Near by village	2 km.
Year of existence	100
Tradition (Manyata)	Nil
Name of Deity	Sidda baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	No living offering allowed
Any devotional Song / Dance/Rituals	Traditional song and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Vishrakarma jayanti
Time of Worship	Morning evening
On the Festival	Vishkarma jayanti
Rules followed	Do not plough the flowers in the premises area and entry should be neet and clean without lather items.
Steps for conservation of sanctity	Public awareness is needed
Plants and its associates	*Terminalia tomentosa, Gmelina arborea, Mangifera indica, Emblica officinalis, Syzygium cumini, Manilkara hexandra, BuGramnia lanzan, Terminalia bellirica, Lagerstroemia parviflora, Anogeissus latifolia, Syzygium cumini.*

Sacred Grove – 52

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	STR Pachmari
Name of Near by Village	Pagarra
Population	250, Male 150, Female 150
Tribe composition Baiga/Gond/Panka	Korku, mewari, gond
Name of Sacred Grove	Majar
Approximate area in m^2	400
Water bodies	Nil
Location of Sacred Grove	Comptt. No. P-232
Distance from District	65 km
Distance from Tehsil	13 km.
Distance from Near by village	2 km.
Year of existence	30
Tradition (Manyata)	All desires are fulfil after prayer
Name of Deity	Peerbaba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	No living offering allowed.
Any devotional Song / Dance/Rituals	Traditional song and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Friday
Time of Worship	Friday
On the Festival	As per people desire
Rules followed	Not any specific rule
Steps for conservation of sanctity	Public awareness is needed
Plants and its associates	*Terminalia tomentosa, Gmelina arborea, Mangifera indica, Emblica officinalis, Syzygium cumini, Manilkara hexandra, BuGramnia lanzan, Terminalia bellirica, Lagerstroemia parviflora, Anogeissus latifolia, Syzygium cumini.*

Sacred Grove – 52

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	STR Pachmari
Name of Near by Village	Pagarra
Population	250, Male 150, female 150
Tribe composition Baiga/Gond/Panka	Korku, mewari, gond
Name of Sacred Grove	Gajandeo
Approximate area in m^2	400
Water bodies	Stream, Handpump, nala
Location of Sacred Grove	Comptt. No. P-240
Distance from District	70 km
Distance from Tehsil	13 km.
Distance from Near by village	1 km.
Year of existence	50
Tradition (Manyata)	Not specific tradition followed
Name of Deity	Gajandeo
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Gram, Chirongi (Made up of sugar), Flowers
Any devotional Song / Dance/Rituals	Traditional song and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Not specific
Time of Worship	Not specific
On the Festival	As per people desire
Rules followed	Nil
Steps for conservation of sanctity	Public awareness needed
Plants and its associates	*Terminalia tomentosa, Gmelina arborea, Mangifera indica, Emblica officinalis, Syzygium cumini, Manilkara hexandra, BuGramnia lanzan, Terminalia bellirica, Lagerstroemia parviflora, Anogeissus latifolia, Syzygium cumini.*

Sacred Grove – 53

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	STR Pachmari
Name of Near by Village	Panchmari
Population	1500
Tribe composition Baiga/Gond/Panka	Korku, mawashi, gond
Name of Sacred Grove	Nagadawari (Starting point of dhoopgarh)
Approximate area in m^2	100
Water bodies	Stream, Handpump, nala
Location of Sacred Grove	Comptt. No. P-307 Dhoop garh beat
Distance from District	153 Km
Distance from Tehsil	65 km.
Distance from Near by village	10 km.
Year of existence	100 year
Tradition (Manyata)	NA
Name of Deity	Nagmaharaj
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Gram, Chirongi (Made up of sugar), Flowers
Any devotional Song / Dance/Rituals	Traditional song and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Not specific
Time of Worship	Thursday
On the Festival	Not any specific
Rules followed	Not any specific rule followed
Steps for conservation of sanctity	Public awareness needed
Plants and its associates	*Terminalia tomentosa, Gmelina arborea, Mangifera indica, Emblica officinalis, Syzygium cumini, Manilkara hexandra, BuGramnia lanzan, Terminalia bellirica, Lagerstroemia parviflora, Anogeissus latifolia, Syzygium cumini.*

Sacred Grove – 54

District	Hoshangabad
Tehsil	Pipariya
Block	Pachmarhi
Forest Range	Pachmarhi
Name of Near by Village	Pachmarhi
Population	5000, Male 3000, female 2000
Tribe composition Baiga/Gond/Panka	Gond, other communities
Name of Sacred Grove	Majar
Approximate area in m^2	100
Water bodies	NA
Location of Sacred Grove	Comptt. No. P-308 Dhoop garh beat
Distance from District	68
Distance from Tehsil	13 km.
Distance from Near by village	10 km.
Year of existence	50
Tradition (Manyata)	NA
Name of Deity	Peerbaba
Other Deity if any	Babashab
Name of Guniya / Priest	N.A
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	No living offering
Any devotional Song / Dance/Rituals	Traditional song and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Friday, id-ul-fitre,id-ul-miladunnabi, muhharram
Time of Worship	Friday
On the Festival	As per people desire
Rules followed	NA
Steps for conservation of sanctity	Need public awareness
Plants and its associates	*Terminalia tomentosa, Gmelina arborea, Mangifera indica, Emblica officinalis, Syzygium cumini, Manilkara hexandra, BuGramnia lanzan, Terminalia bellirica, Lagerstroemia parviflora, Anogeissus latifolia, Syzygium cumini.*

Sacred Grove – 55

District	Hoshangabad
Tehsil	Pipariya
Block	Pachmarhi
Forest Range	Pachmarhi
Name of Near by Village	Pachmarhi
Population	5000, Male 3000, female 2000
Tribe composition Baiga/Gond/Panka	Gond
Name of Sacred Grove	Trinathdham
Approximate area in m^2	400
Water bodies	NA
Location of Sacred Grove	Revenue land but adjoining to forest land
Distance from District	68 km
Distance from Tehsil	13 km.
Distance from Near by village	10 km.
Year of existence	150
Tradition (Manyata)	A wodden plate is kept in the name of dead family member
Name of Deity	Gond baba
Other Deity if any	Baba shab
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Chirongi (Made up of sugar), rose flowers
Any devotional Song / Dance/Rituals	Traditional song and dance
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Friday
Time of Worship	Friday
On the Festival	As per people desire
Rules followed	Not any specific
Steps for conservation of sanctity	Public awareness needed
Plants and its associates	*Terminalia tomentosa, Gmelina arborea, Mangifera indica, Emblica officinalis, Syzygium cumini, Manilkara hexandra, BuGramnia lanzan, Terminalia bellirica, Lagerstroemia parviflora, Anogeissus latifolia, Syzygium cumini.*

Sacred Grove – 56

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Panchmarhi
Name of Near by Village	Rorighat
Population	285 Male 77, Female 73, Children 135
Tribe composition Baiga/Gond/Panka	Mawasi, Korku,
Name of Sacred Grove	Khermai
Approximate area in m^2	100
Water bodies	Nalla
Location of Sacred Grove	Comptt.no. 252
Distance from District	154 km.
Distance from Tehsil	69 km.
Distance from Near by village	1 km.
Year of existence	50 years old
Tradition (Manyata)	Bileavers comes with their desire and bileave that lord shiva listen their desire and fulfill it.
Name of Deity	Khermaimata
Other Deity if any	Gramdevi, Kaliji, Bhairav baba, Ambamai
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Cocoknut, Jason flowers, tiles, bamboo, flags
Any devotional Song / Dance/Rituals	Jai ambe gauri - Devi arti
Entry Freedom-Y/N **Any Specific day**	Yes Not specific
Day of Worship	Daily
Time of Worship	7.00 am and 7.00 pm.
On the Festival	Sarad purnima, Navratri, Navdurga and Mahashivratri
Rules followed	Remove shoes out side.
Steps for conservation of sanctity	Plantation and fancing needed.
Plants and its associates	*Madhuca indica, Ficus glomarata, Bombax ceiba, Euphorbia hirita, Desmodium trifolium, Parthenium hysterophorus, Holarrhena antidysenterica, Aegle marmelos, Lantana camara.*

Sacred Grove – 57

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Park Pachmarhi
Name of Near by Village	Kajri
Population	260, Male - 78, Female - 74, Children - 108
Tribe composition Baiga/Gond/Panka	Gond, Mawashi
Name of Sacred Grove	Nishan Garh
Approximate area in m^2	2500
Water bodies	Kajyari nalla
Location of Sacred Grove	Comptt. No. 256
Distance from District	166 km.
Distance from Tehsil	81 km.
Distance from Near by village	300 meters
Year of existence	500 years
Tradition (Manyata)	Maharastrian people come in nagpanchmi mella and worship here local people not worshiping here.
Name of Deity	Lord Ganesha
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove- Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Flag, Dhoob, Nimbu, Agarabatti
Any devotional Song / Dance/Rituals	Ganesh arti
Entry Freedom-Y/N Any Specific day	Naagpanchmi and Shravan month
Day of Worship	Not specific
Time of Worship	Not specific
On the Festival	Baishakh, Rangpanchmi, Nagpanchmi, Shravan mah mell.
Rules followed	Not specific.
Steps for conservation of sanctity	This is the natural forest area. No need any conservation steps.
Plants and its associates	*Shorea rabusta, Anogeissus pendula, Holoptelea integrifolia, Ficus racemosa, Ziziphus glaberrima , Casia tora*

Sacred Grove – 58

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Park Panchmadhi
Name of Near by Village	Pachmarhi
Population	5000, Male 3000, female 2000
Tribe composition Baiga/Gond/Panka	Gond, mawasi, korku and other communities
Name of Sacred Grove	Sidhababa
Approximate area in m^2	100
Water bodies	Stream 500 mt down to SG
Location of Sacred Grove	Comptt. No. 253
Distance from District	130 km.
Distance from Tehsil	65 km.
Distance from Near by village	8 km.
Year of existence	20 years
Tradition (Manyata)	Local tribal communities come and pray for fulfillment of their desire
Name of Deity	Sidhbaba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, white flag, chironji, seasional flowers.
Any devotional Song / Dance/Rituals	Not specific
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Only during festivals
Time of Worship	Any time
On the Festival	Not specific
Rules followed	Come in neet and clean condition without shoe.
Steps for conservation of sanctity	Public awareness needed
Plants and its associates	*Syzygium cumini, Mangifera indica, Holoptelea integrifolia, Bauhinia vahlii, Anogeissus pendula, Lantana camara, Vernonia cinerea, Eragrostis interrupta, Emblica officinalis, Boswellia serrata, Cassia fistula*

Sacred Grove – 59

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Park Panchmadhi
Name of Near by Village	Kajari
Population	260 Male 78, Female 74, Children 108
Tribe composition Baiga/Gond/Panka	Gond, Mawashi
Name of Sacred Grove	Paschim dwar
Approximate area in m^2	4000
Water bodies	Stream
Location of Sacred Grove	Comptt. No. 259
Distance from District	173 km.
Distance from Tehsil	88 km.
Distance from Near by village	3 km.
Year of existence	1000 years
Tradition (Manyata)	Maharastrian people come in nagpanchmi mella and worship here local people not worshiping here.
Name of Deity	Shivji
Other Deity if any	Sheshnag, Ganeshji, Parwatiji, Nandi dev, Shrngi Bhrngi, Shivgarh
Name of Guniya / Priest	Nagpur ashram trust.
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Agrabatti, Kapoor, Sugar, Halwa
Any devotional Song / Dance/Rituals	Om Jai shiv omkara
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Only during mela time
Time of Worship	At the time of mela
On the Festival	Nagpanchmi, Rangpanchmi, Dashhera, Baishakh, Kartik, Shrawan
Rules followed	Come in the sacred place neet and clean without shoe.
Steps for conservation of sanctity	Pollution of polythene bags at the time of mela is drastically increased in the national park area.
Plants and its associates	*Mangifera indica, Elaeodendron glaucum, Syzygium cumini, Terminalia tomentosa, Lantana, Riccia, Ficus racemosa, Anogeissus pendula*

Sacred Grove – 60

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Park Panchmadhi
Name of Near by Village	Kajari
Population	260 Male 78, Female 74, Children 108
Tribe composition Baiga/Gond/Panka	Gond, Mawashi
Name of Sacred Grove	Swarg Dwar
Approximate area in m^2	400
Water bodies	West Dwar Nalla
Location of Sacred Grove	Comptt. No. 259
Distance from District	174 km.
Distance from Tehsil	89 km.
Distance from Near by village	4 km.
Year of existence	1000 years
Tradition (Manyata)	Maharastrian people come in nagpanchmi mella and worship here local people not worshiping here.
Name of Deity	Sheshnag
Other Deity if any	Shivji, Parwatiji
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Red flag, Kapoor, Incense stick
Any devotional Song / Dance/Rituals	Om Jai shiv omkara
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Only in mela time
Time of Worship	During at the time of mela
On the Festival	Nagpanchmi, Rangpanchmi, Dashhera, Baishakh, Kartik, Shrawan mah mella
Rules followed	Come in the sacred place neet and clean without shoe.
Steps for conservation of sanctity	Bryophytes, pteridophytes, mosses and fern flora were maximum and need proper steps for their conservation.
Plants and its associates	*Mangifera indica, Manilkara hexandra, Syzygium cumini, Tamarindus indica Cryptolepis buGramni, Helicteres isora* and *Thysanolaena maxima*

Sacred Grove – 61

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Park Panchmadhi
Name of Near by Village	Kajari
Population	260 Male 78, Female 74, Children 108
Tribe composition Baiga/Gond/Panka	Gond, Mawashi
Name of Sacred Grove	Chintaman (Lord Ganesh)
Approximate area in m^2	4000
Water bodies	5 Wells
Location of Sacred Grove	West Panchmarhi
Distance from District	175 km.
Distance from Tehsil	90 km.
Distance from Near by village	5 km.
Year of existence	1000 years
Tradition (Manyata)	This place is Known as Maharashtriyan teerth
Name of Deity	Lord Ganesh
Other Deity if any	Nagin, Paiman, Dhuni baba, Harushesh.
Name of Guniya / Priest	Chitaman baba
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Kapoor, Chiroungi, Suji, Incense stick
Any devotional Song / Dance/Rituals	Om Jai shiv omkara
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Only at the time of nagpanchmi mela.
Time of Worship	All time only at the time of nagpanchmi mela.
On the Festival	Nagpanchmi, Rangpanchmi, Dashhera, Baishakh, Kartik, Shrawan mah mella
Rules followed	Come in the sacred place neet and clean without shoe.
Steps for conservation of sanctity	No need
Plants and its associates	*Mangifera indica, Psidium guajava, Syzygium cumini, Ficus racemosa, Anogeissus pendula, Manilkara hexandra, Milletia auriculata*

Sacred Grove – 62

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Park Panchmadhi
Name of Near by Village	Kajari
Population	260 Male 78, Female 74, Children 108
Tribe composition Baiga/Gond/Panka	Gond, Mawashi
Name of Sacred Grove	Chitrashala Mandir
Approximate area in m^2	1500
Water bodies	Chintaman wells
Location of Sacred Grove	West Panchmarhi
Distance from District	176 km.
Distance from Tehsil	91 km.
Distance from Near by village	6 km.
Year of existence	1000 years
Tradition (Manyata)	Maharastrian people come in nag panchmi mela and worship here local people not worshiping here.
Name of Deity	Durga Mata
Other Deity if any	Shesh nag, shivaji
Name of Guniya / Priest	NA
Type of Sacred Grove- Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Kapoor, Cloth, Rice, Gamche, Chiroungi
Any devotional Song / Dance/Rituals	ChitraShorea rabustaa mata ki arti
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Only at the time of nagpanchmi mela.
Time of Worship	All time only at the time of nagpanchmi mela.
On the Festival	Nagpanchmi, Rangpanchmi, Dashhera, Baishakh, Kartik, Shrawan mah mella
Rules followed	Come in the sacred place neet and clean without shoe.
Steps for conservation of sanctity	Public awareness needed
Plants and its associates	*Mangifera indica, Psidium guajava, Syzygium cumini, Ficus racemosa, Anogeissus pendula, Manilkara hexandra, Milletia auriculata*

Sacred Grove – 63

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Park Panchmadhi
Name of Near by Village	Kajari
Population	260 Male 78, Female 74, Children 108
Tribe composition Baiga/Gond/Panka	Gond, Mawashi
Name of Sacred Grove	Nag murti/Nag phauri
Approximate area in m^2	100
Water bodies	Rainy Stream
Location of Sacred Grove	West Panchmarhi
Distance from District	177 km.
Distance from Tehsil	92 km.
Distance from Near by village	7 km.
Year of existence	500 years
Tradition (Manyata)	All desires are fulfil when come with faith
Name of Deity	Ganeshji
Other Deity if any	Sheshnag, Nandi
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Chandi and Sona Nagmurti, Chiroungi, Flowers, Rice, Suparhi
Any devotional Song / Dance/Rituals	Kothijala re mala pani them them jhala hari har
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Only at the time of nagpanchmi mela.
Time of Worship	All time only at the time of nagpanchmi mela.
On the Festival	Nagpanchmi – 10 days, Navratri, Baishakh mah dolli mella, Dhashhera Ambaji Dhimshala mai
Rules followed	Come in the sacred place neet and clean without shoe.
Steps for conservation of sanctity	Protection from polythene bags and other pollution material done during mela is needed.
Plants and its associates	*Mangifera indica, Ficus rumphii, Thysanolaena maxima, Eranthemum purpurascens, Elephantopus scaber*

Sacred Grove – 64

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Panchmarhi
Name of Near by Village	Pipariya tola
Population	500 Male 300, Female 152, Children 43
Tribe composition Baiga/Gond/Panka	Mawashi, gond, korku
Name of Sacred Grove	Amba Mai
Approximate area in m^2	2000
Water bodies	Hand pump
Location of Sacred Grove	Revenue land but adjoining to forest land
Distance from District	142 km.
Distance from Tehsil	57 km.
Distance from Near by village	2 km.
Year of existence	200 years
Tradition (Manyata)	Visitor and outsiders comes and pray for their happy life.
Name of Deity	Durga ji
Other Deity if any	Laxmi, Shankar, Saibaba, Kaliji
Name of Guniya / Priest	Balram Swami
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Chiroungi, Daal, Halwa
Any devotional Song / Dance/Rituals	Durga arti
Entry Freedom-Y/N Any Specific day	Yes Tuesday, Saturday
Day of Worship	Daily
Time of Worship	7.00 am and 7.00 pm.
On the Festival	Navratiri
Rules followed	Come in without shoe.
Steps for conservation of sanctity	This place is needed plantation for conservation
Plants and its associates	*Mangifera indica, Psidium guajava, Khinni, Bombax ceiba, Ficus rumphii, Cassia fistulah, Parkonia, Plumeria rubra, Hibicus rosa senensis.*

Sacred Grove – 65

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Pachmarhi
Name of Near by Village	Pachmari
Population	600 Male 350, Female 182, Children 63
Tribe composition Baiga/Gond/Panka	Mawashi, korku, gond and mohammdans.
Name of Sacred Grove	Shankarji (Jatashankar)
Approximate area in m^2	2000
Water bodies	Stream Natural
Location of Sacred Grove	East Panchmarhi
Distance from District	141 km.
Distance from Tehsil	56 km.
Distance from Near by village	1.5 km.
Year of existence	Old (100 years)
Tradition (Manyata)	Mythological Aegle marmelosief is this devil bhasmasur's fears Lord shiva underground here.
Name of Deity	Shakarji
Other Deity if any	Parwatiji, Ganeshji, Sheshnag
Name of Guniya / Priest	Shri Yashwant Giri
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Murmura, Incense stick, Flowers, Aegle marmelos patra, Datura stramonium
Any devotional Song / Dance/Rituals	Om Jai Shiv Om kara
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Daily
Time of Worship	7.00 am and 7.00 pm.
On the Festival	Mahashivratri and Nagpanchmi
Rules followed	Meat and wine not allowed.
Steps for conservation of sanctity	Plantation available. Public awareness needed
Plants and its associates	*Mangifera indica, Ficus racemosa, Anogeissus pendula, Datura stramonium, Sadabahar, Psidium guajava, Bauhinia vahlii, Cryptolepis buGramni, Aegle marmelos, Manilkara hexandra, Agave sissalana, Syzygium cumini, Adhatoda vasica, Morus alba*

Sacred Grove – 66

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Pachmarhi
Name of Near by Village	Pachmarhi (Ward no. 6)
Population	500 Male 200, Female 189, Children 111
Tribe composition Baiga/Gond/Panka	Gond, korku, mawasi etc.
Name of Sacred Grove	Pandav Gufa (Budh Kalin)
Approximate area in m^2	2000
Water bodies	Well, Tube well
Location of Sacred Grove	RL
Distance from District	141.5 km.
Distance from Tehsil	56.5 km.
Distance from Near by village	1.5 km.
Year of existence	1000 years
Tradition (Manyata)	All desires are fulfil to visit this place
Name of Deity	Budh Kalin Sput
Other Deity if any	Budhha scraches and other sign.
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Nil
Any devotional Song / Dance/Rituals	Nil
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	only visitors come to see because of historical monuments.
Time of Worship	Not specific
On the Festival	Not specific
Rules followed	Not specific
Steps for conservation of sanctity	Horticulture garden is stablished here.
Plants and its associates	*Mangifera indica, Syzygium cumini, Ficus bengalensis, Chloroxylon swietenia , Ficus rumphii, Tikona, Cassia fistula, Madhuca indica, Pterocarpus marsupium, Hisbiscus rosa sinensis, Emblica officinalis, Bauhinia variegata,Michalia Champaca, Agave sissalana, Lantana camara*

Sacred Grove – 67

District	Hoshangabad
Tehsil	Bhora
Block	Bhora
Forest Range	Bhora Comptt. no. 214
Name of Near by Village	Churna
Population	350 Male 150, Female 130, Children 70
Tribe composition Baiga/Gond/Panka	Goli, Thatiya, Aadiwasi, Yadav
Name of Sacred Grove	Gutti baba
Approximate area in m^2	100
Water bodies	Bhaisa Nalla
Location of Sacred Grove	East
Distance from District	km.
Distance from Tehsil	58 km.
Distance from Near by village	150 meters
Year of existence	60 years
Tradition (Manyata)	Tribal Aegle marmelosief place.
Name of Deity	Gutti baba
Other Deity if any	Shankar, Parwati and Ganesha
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Chiroungi, Kapoor, Flowers
Any devotional Song / Dance/Rituals	Not specific
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	One time annually
Time of Worship	One time annually
On the Festival	Shivratri and Navratri
Rules followed	Not any specific rule followed.
Steps for conservation of sanctity	This place is comes under dense forest on the top of the hill.No need any conservation
Plants and its associates	*Terminalia tomentosa, Leucaena leucocephala, Butea monosperma, Eucalyptus Spp., Tectona grandis, Lagerstroemia parviflora, Eranthemum purpurascens, Mangifera indica, Lantana camara*

Sacred Grove – 68

District	Hoshangabad
Tehsil	Sohagpur
Block	Sohagpur
Forest Range	Bhora Comptt. no. 219
Name of Near by Village	Sakot
Population	195 Male 60 Female 50 Children 85
Tribe composition Baiga/Gond/Panka	Korku, Gond
Name of Sacred Grove	Saimal Baba
Approximate area in m^2	100
Water bodies	Tawa Dam
Location of Sacred Grove	West
Distance from District	213 km.
Distance from Tehsil	78 km.
Distance from Near by village	8 km.
Year of existence	165 years
Tradition (Manyata)	For saving life from wild animals the passengers prey here.
Name of Deity	Saimal Baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Psidium guajava, Tambakhu, Coconut, Stone
Any devotional Song / Dance/Rituals	Not any specific
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Only passengers who cross from this place prayed here.
Time of Worship	Any time
On the Festival	Not specific
Rules followed	Not specific
Steps for conservation of sanctity	This grove is situated on the road side in dense forest of Kamti range.
Plants and its associates	*Salmolia malabarica, Lantana camara, Dendrocalamus strictus, Butea monosperma, Sida acuta, Sida cordifolia, Anogeissus pendula, Diospyros melanoxylon*

Sacred Grove – 69

District	Hoshangabad
Tehsil	Sohagpur
Block	Sohagpur
Forest Range	Bhora
Name of Near by Village	Churna
Population	350 Male 150, Female 130, Children 70
Tribe composition Baiga/Gond/Panka	Goli, Thatiya
Name of Sacred Grove	Jhoola wali mata
Approximate area in m^2	100
Water bodies	Futaan Jharna
Location of Sacred Grove	Bhora Comptt. no. 217
Distance from District	210 km.
Distance from Tehsil	75 km.
Distance from Near by village	5 km.
Year of existence	250 years
Tradition (Manyata)	Not known
Name of Deity	Jhoola wali mata
Other Deity if any	Van Devi
Name of Guniya / Priest	No.
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Agarabatti, Pudi, Flag, Chunni, Makeup material
Any devotional Song / Dance/Rituals	Arti
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Only passengers who cross from this place prayed here.
Time of Worship	any time
On the Festival	Chaitra, Baishakh, Navratri
Rules followed	Not any specific rule followed.
Steps for conservation of sanctity	This sacred grove is situated in pure dense forest area. No need of conservation.
Plants and its associates	*Tectona grandis, Tamarindus indica , Butea monospermah,Schlecher oleosa, Dendrocalamus strictus, Poenix acualis, Cassia tora, Lagerstroemia parviflora*

Sacred Grove – 70

District	Hoshangabad
Tehsil	Sohagpur
Block	Sohagpur
Forest Range	Kamti, Comptt. no. 216
Name of Near by Village	Churna
Population	350 Male 150, Female 130, Children 70
Tribe composition Baiga/Gond/Panka	Goli, Thatiya, Aadiwasi, Yadav
Name of Sacred Grove	Churna Gundi
Approximate area in m^2	100
Water bodies	Jharna
Location of Sacred Grove	Comptt. no. 216
Distance from District	180 km.
Distance from Tehsil	62 km.
Distance from Near by village	3 km.
Year of existence	200 years
Tradition (Manyata)	This place is below the gutti baba hill. All the desire of tribal community is fulfil by parayer
Name of Deity	Churna Gundi
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Adhiwashi people's Bhandara
Any devotional Song / Dance/Rituals	Not specific
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	One time annually
Time of Worship	One time annually
On the Festival	Chaitra, Baishakha
Rules followed	Not specific
Steps for conservation of sanctity	This place is basically a natural water body near the Gutti baba in the game range bhora.
Plants and its associates	*Mangifera indica, Syzygium cumini, Manilkara hexandra, Ficus rumphii,Ficus racemosa , Terminalia arjuna, Cynodon dactylon, Schlechera oleosa, Careya arborea, Syzygium heyneanum, Desmodium trifolium, Lantana camara, cassia tora, phylanthes nirurii.*

Sacred Grove – 71

District	Hoshangabad
Tehsil	Sohagpur
Block	Sohagpur
Forest Range	Bhora Comptt. no. 198
Name of Near by Village	Shakhot Khkhrapur
Population	195 Male 60 Female 50 Children 85
Tribe composition Baiga/Gond/Panka	Goli, Thatiya, Aadiwasi, Yadav
Name of Sacred Grove	Sakhut Baba
Approximate area in m^2	250
Water bodies	Tawa river
Location of Sacred Grove	Comptt. no. 198
Distance from District	245 km.
Distance from Tehsil	90 km.
Distance from Near by village	4 km
Year of existence	300 years
Tradition (Manyata)	Evry boat prey here before crossing the tawa river.
Name of Deity	Sakut Baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Goat Bali
Any devotional Song / Dance/Rituals	Preyer for any undesired at the time of crossing the river.
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Every day
Time of Worship	Any time
On the Festival	Chaitra and Baishakh
Rules followed	Not specific.
Steps for conservation of sanctity	This sacred grove is on the road side near the river tawa.
Plants and its associates	*Tamarindus indica, Terminalia tomentosa, Diospyros melanoxylon, Tectona grandis, BuGramnia lanzan, Lantana camara, Cassia tora, Eranthemum purpurascens*

Sacred Grove – 72

District	Hoshangabad
Tehsil	Sohagpur
Block	Sohagpur
Forest Range	Kampti Comp no. 275 Angogeissus latifolia beat
Name of Near by Village	Madai
Population	600 Male 250, Female 200, Children 150
Tribe composition Baiga/Gond/Panka	Mawashi, Korku, Gond
Name of Sacred Grove	Jhin-jhini Mahal
Approximate area in m^2	100
Water bodies	Nil
Location of Sacred Grove	Comptt. No. 275
Distance from District	255 km.
Distance from Tehsil	65 km.
Distance from Near by village	40 km.
Year of existence	5000 years
Tradition (Manyata)	This mahal is historically important place.
Name of Deity	No
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Murmura, Incense stick, Flowers,
Any devotional Song / Dance/Rituals	NA
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Not specific
Time of Worship	Not specific
On the Festival	Not specific
Rules followed	Not specific
Steps for conservation of sanctity	This mahal is situated in dense forest area. There is no need of any conservation.
Plants and its associates	*Terminalia tomentosa, Tectona grandis, Dendrocalamus strictus, Chloroxylon swietenia, Syzygium cumini, Acasia catechu, Mangifera indica, Manilkara hexandra, Diospyros melanoxylon, Lantana camara, Casia tora*

Sacred Grove – 73

District	Hoshangabad
Tehsil	Sohagpur
Block	Sohagpur
Forest Range	Kamti Comptt. no. 293
Name of Near by Village	Churna
Population	350 Male 150, Female 130, Children 70
Tribe composition Baiga/Gond/Panka	Goli, Thatiya, Aadiwasi, Yadav
Name of Sacred Grove	Nagdeo
Approximate area in m^2	500
Water bodies	Nil
Location of Sacred Grove	Comptt. no. 293
Distance from District	200 km.
Distance from Tehsil	60 km.
Distance from Near by village	15 km.
Year of existence	250 years
Tradition (Manyata)	Nil
Name of Deity	Nagdev
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Chiroungi, Kapoor, Flowers
Any devotional Song / Dance/Rituals	Not specific
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Nagpanchmi
Time of Worship	Morning and Evening
On the Festival	Nagpanchmi
Rules followed	Not specific
Steps for conservation of sanctity	This sacred grove comes under national park area.
Plants and its associates	*Chloroxylon swietenia , Dendrocalamus strictus, Manilkara hexandra, Terminalia tomentosa, Diospyros melanoxylon, BuGramnia lanzan, Lagerstroemia parviflora*

Sacred Grove – 74

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Park Pachmarhi Compt. no. 309
Name of Near by Village	Pachmarhi
Population	1500 Male 750, Female 600, Children 150
Tribe composition Baiga/Gond/Panka	Mawashi, Korku, Gond, Mohammedan
Name of Sacred Grove	Sidha baba
Approximate area in m^2	100
Water bodies	Natural water fall (Dutches fall)
Location of Sacred Grove	Compt. no. 309
Distance from District	205 km.
Distance from Tehsil	65 km.
Distance from Near by village	10 km.
Year of existence	100 years
Tradition (Manyata)	Local tribals worship here.
Name of Deity	Sidha baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, Chiroungi (made up of suger), Kapoor, Flowers, Ganja, Smocking Sticks, Tobacco
Any devotional Song / Dance/Rituals	Not any specidic
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Thursday
Time of Worship	Morning and evening
On the Festival	Shivratri and Navratri
Rules followed	Not specific
Steps for conservation of sanctity	Sacred grove is situated under comp. no. 309 of Park. No need for conservation
Plants and its associates	*Shorea rabusta, Syzygium cumini, Mangifera indica, Anogeissus pendula, Terminalia chebula, Chloroxylon swietenia*

Sacred Grove – 75

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Park Pachmarhi
Name of Near by Village	Pachmarhi
Population	1500 Male 750, Female 600, Children 150
Tribe composition Baiga/Gond/Panka	Mawashi, Korku, Gond, Mohammedan
Name of Sacred Grove	Gond baba (Gond Bangla)
Approximate area in m^2	400
Water bodies	Borewell
Location of Sacred Grove	RL
Distance from District	140 km.
Distance from Tehsil	55 km.
Distance from Near by village	100 meters
Year of existence	500 years
Tradition (Manyata)	Mawashi tribes make tattoo on wooden ply at the time of death of family member and put here for the peace of the soul of dead person.
Name of Deity	Gond baba
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Sharab, Smoking stick, Chicken etc.
Any devotional Song / Dance/Rituals	Not specific
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	At the time of death of a person of tribal korku.
Time of Worship	Any time
On the Festival	Not specific
Rules followed	Not specific
Steps for conservation of sanctity	This place is conserved by fencing wire.
Plants and its associates	*Litsea glutinosa, Mangifera indica, Syzygium cumini, Hisbiscus rosa sinensis*

Sacred Grove – 76

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Park Pachmarhi
Name of Near by Village	Forest colony
Population	80 Male 40, Female 30, Children 10
Tribe composition Baiga/Gond/Panka	Mawashi and other castes.
Name of Sacred Grove	Karbala
Water bodies	Pump (nagar nigam)
Location of Sacred Grove	RL
Distance from District	143 km.
Distance from Tehsil	57 km.
Distance from Near by village	2 km.
Year of existence	15 years
Tradition (Manyata)	Tazia nakale jate hai.
Name of Deity	Shahidana karwala
Other Deity if any	Nil
Name of Guniya / Priest	Rafiqe Khan and Nasheem Khan
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Gulab, Green Chadar, Pudi Halwa, Sent etc.
Any devotional Song / Dance/Rituals	Kawali (on ursh programme)
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Friday
Time of Worship	anytime
On the Festival	Id-ul- fitra, Id-ul- juha and Id-ul-milladunnawi
Rules followed	Yes entry without shoes
Steps for conservation of sanctity	Fencing is needed
Plants and its associates	*Anogeissus pendula, Syzygium cumini, Phoenix acualis, Careya arborea, Thevitia nerifolia, Psidium guajava, Cassia fistula, Elaeodendron glaucum, Cynodon dactylon*

Sacred Grove – 77

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Park Panchmadhi
Name of Near by Village	Rorighat
Population	Total 285, Male 77, Female 73, Children 135
Tribe composition Baiga/Gond/Panka	Mawasi, Korku
Name of Sacred Grove	Sidhababa
Approximate area in m^2	20
Water bodies	Stream
Location of Sacred Grove	Comptt. No. 254
Distance from District	150 km.
Distance from Tehsil	65 km.
Distance from Near by village	4 km.
Year of existence	100 years
Tradition (Manyata)	NA
Name of Deity	Sidhababa
Other Deity if any	Nil
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, incense stick
Any devotional Song / Dance/Rituals	Not specific
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Thursday
Time of Worship	Morning and Evening
On the Festival	Not specific
Rules followed	Not specific
Steps for conservation of sanctity	Public awareness needed
Plants and its associates	*Terminalia tomentosa, Anogeissus pendula, Pheonix sylvestris, Dendrocalamus strictus, Hibicus rosa senensis,Jasminum sambac, Jasminum grandiflorum, Lantana camara, Emblica officinalis, Syzygium cumini, Holarrhena antidysenterica*

Sacred Grove – 78

District	Hoshangabad
Tehsil	Pipariya
Block	Pipariya
Forest Range	Pachmadhi
Name of Near by Village	Naudiya
Population	300 Male 200, Female 100, Children 100
Tribe composition Baiga/Gond/Panka	Bharti, Mawashi
Name of Sacred Grove	Sita Nahani
Approximate area in m^2	100
Water bodies	Natural water
Location of Sacred Grove	Comptt. No. 252
Distance from District	135 km.
Distance from Tehsil	65 km.
Distance from Near by village	5 km.
Year of existence	More than 5000
Tradition (Manyata)	NA
Name of Deity	Gaumukh Gau katha
Other Deity if any	Shivji
Name of Guniya / Priest	Nil
Type of Sacred Grove-Collective(Common)/Individual (Family)	Collective
Kind of Offerings dedicated	Coconut, incense stick, flowers, garland
Any devotional Song / Dance/Rituals	Shivratri mella
Entry Freedom-Y/N Any Specific day	Yes
Day of Worship	Monday
Time of Worship	7.00 am to 7.00 pm
On the Festival	Shivratri
Rules followed	Not specific
Steps for conservation of sanctity	Public awareness needed
Plants and its associates	*Terminalia tomentosa, Leucaena leucocephala, Ziziphus glaberrima, Butea monosperma, Eucalyptus spp., Tectona grandis, Lagerstroemia parviflora, Mangifera indica, Lentana camara*

INVENTORY OF FLORAL DIVERSITY

A list of species found in the sacred groves was prepared and arranged family wise, alongwith specifying the rare and endangered species. According to particular habit, the collected plant species were also categorized as large trees, medium trees, small trees, shrubs, climbers, parasites, epiphytes, grasses and herbs. Some economically important medicinal plants were collected in the vital form of whole plants, rhizomes, corns, bulbs and seeds for the *ex-situ* conservation. An inventory of collected plant specimens has also been prepared. All the collected and inventoried specimens were identified with the help of Flora of Tamil Nadu (Nair & Henry, 1983, Henry *et al.* 1987 & 1989), Flora of Bhopal (Oommachan, 1977) and Flora of Jabalpur (Oommachan & Shrivastava, 1996). Name changes were confirmed from recent literature (Bennett, 1996) and finally, the specimens were arranged in their respective families following the Bentham and Hooker's system of classification (1862-1883).

A total of 231 plant species belonging to 80 families have been identified. Botanical name, local name, name of family and habit of each plant species are given in **Table - 7**.

Table - 7: Plant species recorded from Sacred Groves

S. No.	Botanical name	Local name	Family	Habit
1.	*Abrus precatorius*	Gunja	Fabaceae	Climber
2.	*Abutilon indicum*	Tipari	Malvaceae	Herb
3.	*Acacia catechu*	Khair	Mimosaceae	Tree
4.	*Acacia nilotica*	Babul	Mimosaceae	Tree
5.	*Acalypha indica*	Kuppi	Euphorbiaceae	Herb
6.	*Achyranthes aspera*	Chichita	Amaranthaceae	Herb
7.	*Acorus calamus*	Bach	Araceae	Herb
8.	*Adhaoda vasica*	Adusa	Acanthacea	Shrub
9.	*Adina cordifolia*	Haldu	Rubiaceae	Tree
10.	*Aegle marmelos*	Bel	Rubiaceae	Tree
11.	*Aerva lanata*	Chhaya	Amaranthaceae	Herb
12.	*Agave americana*	sisal	Agavaceae	Shrub
13.	*Agave sissalana*	Ketaki	Agavaceae	Shrub
14.	*Ageratum conyzoides*	Kaumi	Asteraceae	Herb
15.	*Ailanthus excelsa*	Mahaneem	Simaroubaceae	Tree
16.	*Albizia lebbeck*	Kala siris	Mimosaceae	Tree
17.	*Albizia procera*	Karahi	Mimosaceae	Tree
18.	*Aloe barbadensis*	Gwarpatha	Liliaceae	Herb
19.	*Alternanthera sessilis*	Phulani	Amaranthaceae	Herb
20.	*Alysicarpus hamosus*	Silari	Fabaceae	Herb
21.	*Amaranthus spinosus*	Kateli	Amaranthaceae	Herb
22.	*Amaranthus viridis*	Chaulai	Amaranthaceae	Herb
23.	*Andrographis paniculata*	Kadu chirata	Acanthaceae	Herb
24.	*Andropogon intermedius*	Ghonsi	Poaceae	Grass
25.	*Andropogon pumilus*	Devratari	Poaceae	Grass
26.	*Annona squamosa*	Seetaphal	Annonaceae	Tree
27.	*Anogeissus latifolia*	Dhawa	Combretaceae	Tree

28.	*Anthocephalus cadamba*	Kadam	Rubiaceae	Tree
29.	*Antidesma diandrum*	Khatua	Euphorbiaceae	Herb
30.	*Apluda mutica*	Phular	Poaceae	Grass
31.	*Argemone maxicana*	Pili kateri	Papaveraceae	Herb
32.	*Aristida funiculate*	Kakbahari	Poaceae	Grass
33.	*Aristolochia bracteolata*	Keetmar	Aristolochiaceae	Climber
34.	*Arthraxon quartinianus*	Basin	Poaceae	Grass
35.	*Asparagus racemosus*	Narbod	Lilliaceae	Climber
36.	*Azadirachta indica*	Neem	Meliaceae	Tree
37.	*Bachanania lanzan*	Achar	Anacardiaceae	Tree
38.	*Bambusa arundinacea*	Katang bans	Poaceae	Bamboo
39.	*Barleria prionitis*	Bajradanti	Acanthaceae	Shrub
40.	*Bauhinia purpurea*	Kevalar	Caesalpiniaceae	Tree
41.	*Bauhinia vahlii*	Mahul	Caesalpiniaceae	Climber
42.	*Bauhinia variegate*	Kachanaar	Caesalpiniaceae	Tree
43.	*Blumea balsamifera*	Kukarand	Asteraceae	Herb
44.	*Blumea lacera*	Sidhha	Asteraceae	Herb
45.	*Boerhavia diffusa*	Patharchata	Nyctaginaceae	Herb
46.	*Bombax ceiba*	Semal	Bombacaceae	Tree
47.	*Boswellia serrata*	Salai	Buseraceae	Tree
48.	*Briedelia retusa*	Kasai	Euphorbiaceae	Tree
49.	*Butea monosperma*	Palash	Fabaceae	Tree
50.	*Caesalpinia bonducella*	Gataran	Caesalpiniaceae	Climber
51.	*Calotropis gigantean*	Aak	Asclepiadaceae	Shrub
52.	*Calotropis procera*	Safed aak	Asclepiadaceae	Shrub
53.	*Canavalia gladiata*	Van sem	Fabaceae	Climber
54.	*Capparis deciduas*	Kareel	Capparaceae	Climber
55.	*Careya arborea*	Bhui	Lecythidaceae	Tree
56.	*Carissa opaca*	Karonda	Apocynaceae	Shrub
57.	*Casearia graveolens*	Gilchi	Flacourtiaceae	Tree
58.	*Casia fistula*	Amaltash	Caesalpiniaceae	Tree
59.	*Cassia tora*	Chironta	Caesalpiniaceae	Herb
60.	*Catharanthus roseus*	Sada suhagan	Apocynaceae	Herb
61.	*Centella asiatica*	Bramhi	Apiaceae	Herb
62.	*Centratherum anthelminticum*	Karjeera	Asteraceae	Herb
63.	*Cestrum nocturnum*	Rat ki raani	Solanaceae	Shrub
64.	*Chenopodium album*	Bhatua	Chenopodiaceae	Herb
65.	*Chlorophytum arundinaceum*	Safed musli	Liliaceae	Herb
66.	*Chlorophytum tuberosum*	Safed musli	Liliaceae	Herb
67.	*Cissus quadrangularis*	Hadjod	Vitaceae	Climber
68.	*Cleistanthus collinus*	Karra	Euphorbiaceae	Tree
69.	*Cleome viscosa*	Hurhul	Capparaceae	Herb
70.	*Clerodendron viscosum*	Kalibansa	Verbenaceae	Shrub
71.	*Clitoria ternatea*	Aparajita	Fabaceae	Climber

72.	*Colocasia indica*	Jangali arbi	Araceae	Herb
73.	*Cordia dichotoma*	Debdaru	Ehretiaceae	Tree
74.	*Cordia myxa*	Lasora	Ehretiaceae	Tree
75.	*Costus speciosus*	Kewkand	Costaceae	Herb
76.	*Crinum difixum*	Sudarshan	Amarylideaceae	Herb
77.	*Crotalaria juncea*	Bansan	Fabaceae	Shrub
78.	*Curculigo orchioides*	Kali musli	Hypoxidaceae	Herb
79.	*Curcuma amada*	Ama haldi	Zingiberaceae	Herb
80.	*Curcuma angustifolia*	Tikhur	Zingiberaceae	Herb
81.	*Curcuma aromatica*	Van haldi	Zingiberaceae	Herb
82.	*Cuscuta reflexa*	Amarbel	Cuscutaceae	Ep/Para
83.	*Cymbopogon martini*	Rusa	Poaceae	Grass
84.	*Cynodon dactylon*	Doob	Poaceae	Grass
85.	*Cyperus rotundus*	Motha	Cyperacea	Grass
86.	*Dalbergia latifolia*	Sheesham	Fabaceae	Tree
87.	*Dalbergia paniculata*	Dhobin	Fabaceae	Tree
88.	*Dalbergia sissoo*	Sissoo	Fabaceae	Tree
89.	*Datura metel*	Kala dhatura	Solanaceae	Shrub
90.	*Datura stramonium*	Safed dhatura	Solanaceae	Shrub
91.	*Delonix regia*	Gulmohar	Caesalpiniaceae	Tree
92.	*Dendrocalamus strictus*	Bans	Poaceae	Bamboo
93.	*Dendropthoe falcate*	Banda	Loranthaceae	Ep/Para
94.	*Desmodium triflorum*	Tinpatiya	Fabaceae	Herb
95.	*Desmodium velutinum*	Chikati	Fabaceae	Shrub
96.	*Dillemia pentagyna*	Chhota kola	Dilleniaceae	Tree
97.	*Dioscorea bulbifera*	Jami kand	Dioscoreaceae	Climber
98.	*Dioscorea hispida*	Baichandi	Dioscoreaceae	Climber
99.	*Diospyros melanaxylon*	Tendu	Ebenaceae	Tree
100.	*Dodonaea viscosa*	Kharenta	Sapindaceae	Shrub
101.	*Eclipta alba*	Bhrigraj	Asteraceae	Herb
102.	*Elaeodendron glaucum*	Jamrasi	Celastraceae	Tree
103.	*Elephantopus scaber*	Van tambaku	Asteraceae	Herb
104.	*Emblica officinalis*	Aonla	Euphorbiaceae	Tree
105.	*Eucalyptus sp.*	Neelgiri	Myrtaceae	Tree
106.	*Euphorbia hirta*	Dudhi	Euphorbiaceae	Herb
107.	*Evolvulus alsinoides*	Shankhapuspi	Convolvulaceae	Herb
108.	*Feronia limonia*	Kaitha	Rutaceae	Tree
109.	*Ficus bengalensis*	Bad	Moraceae	Tree
110.	*Ficus religiosa*	Peepal	Moraceae	Tree
111.	*Flacourtia indica*	Kahai	Flacourticaea	Tree
112.	*Gardenia latifolia*	Papda	Rubiaceae	Tree
113.	*Gloriosa superba*	Kalihari	Liliaceae	Climber
114.	*Gmelina arborea*	Khamer	Verbenaceae	Tree
115.	*Grewia tiliifolia*	Dhaman	Tiliaceae	Tree

116.	*Gymnema sylvestre*	Gudmar	Asclepiadaceae	Climber
117.	*Helicteres isora*	Anti	Sterculiaceae	Shrub
118.	*Hemidesmus indicus*	Anantmool	Asclepiadaceae	Climber
119.	*Heteropogon contortus*	Sukla	Poaceae	Grass
120.	*Hibiscus rosa-sinensis*	Gudhal	Malvaceae	Shrub
121.	*Holarrhena antidysenterica*	Dudhi	Apocynaceae	Shrub
122.	*Holoptelea integrifolia*	Chirol	Ulmaceae	Tree
123.	*Indigofera pulchella*	Neel	Fabaceae	Herb
124.	*Ipomoea batata*	Sakarkand	Convolvulaceae	Shrub
125.	*Ipomoea fistula*	Beshram	Convolvulaceae	Shrub
126.	*Ixora arborea*	Lokhandi	Rubiaceae	Tree
127.	*Jasminum grandiflorum*	Chameli	Oleaceae	Climber
128.	*Jatropha curcas*	ratanjot	Euphorbiaceae	Shrub
129.	*Jatropha gossypifolia*	Ratanjot	Euphorbiaceae	Shrub
130.	*Justicia betonica*	Kokandar	Acanthaceae	Herb
131.	*Kydia calycina*	Poola	Malvaceae	Tree
132.	*Lagerstroemia parviflora*	Lendia	Lythraceae	Tree
133.	*Lannea grandis*	Moyan	Anacardiaceae	Tree
134.	*Lantana camara*	Raimuniya	Verbenaceae	Shrub
135.	*Lawsonia inermis*	Mehndi	Lytheraceae	Shrub
136.	*Leea macrophylla*	Hathapan	Leeaceae	Herb
137.	*Leucaena leucocephala*	Subabul	Mimosaceae	Tree
138.	*Leucas cephalotes*	Goma	Lamiaceae	Herb
139.	*Litsea glutinosa*	Maida lakadi	Lauraceae	Tree
140.	*Loranthus longiflorus*	Banda	Loranthaceae	Herb
141.	*Madhuca indica*	Mahua	Sapotaceae	Tree
142.	*Mallotus philippensis*	Roli	Euphorbiaceae	Tree
143.	*Mangifera indica*	Aam	Anacardiaceae	Tree
144.	*Manilkara hexandra*	Khirni	Sapotaceae	Tree
145.	*Melastoma malabathricum*	Polaar	Melastomataceae	Shrub
146.	*Melia azedarach*	Bakayan	Meliaceae	Tree
147.	*Miliusa tomentosa*	Kari	Annonaceae	Tree
148.	*Millettia racemosa*	Janjeenar	Fabaceae	Climber
149.	*Millingtonia hortensis*	Akash neem	Bignoniaceae	Tree
150.	*Mimosa pudica*	Chhui mui	Mimosaceae	Herb
151.	*Mimusops elengi*	Molshree	Sapotaceae	Tree
152.	*Mitragyna parvifolia*	Mundi	Rubiaceae	Tree
153.	*Momordica dioca*	Van karela	Cucurbitaceae	Climber
154.	*Monochoria vaginalis*	Indeewer	Pontederiaceae	Herb
155.	*Morinda tinctoria*	Aal	Rubiaceae	Tree
156.	*Moringa oleifera*	Munga	Moringaceae	Tree
157.	*Morus alba*	Shahtoot	Moraceae	Tree
158.	*Mucuna pruriens*	Kewal	Fabaceae	Climber
159.	*Mukia maderaspatana*	Silkakai	Cucurbitaceae	Climber

160.	*Murraya koenigii*	Meethi neem	Rutaceae	Tree
161.	*Musa paradisiaca*	Kela	Musaceae	Herb
162.	*Nelumbo nucifera*	Kamal	Nymphaeaceae	Herb
163.	*Nerium indicum*	Kaner	Apocynaceae	Shrub
164.	*Nyctanthes arbor tristis*	Siharu	Oleaceae	Tree
165.	*Ocimum americanum*	Kali tulsi	Lamiaceae	Herb
166.	*Ocimum canum*	Van Tulsa	Lamiaceae	Herb
167.	*Ocimum sanctum*	Tulsi	Lamiaceae	Herb
168.	*Olax scandens*	Harduli	Oleaceae	Climber
169.	*Ougeinia oogeinsis*	Tinsa	Fabaceae	Tree
170.	*Oxalis corniculata*	Amarool sak	Oxalidaceae	Herb
171.	*Parthenium hysterophorus*	Gajar ghans	Asteraceae	Herb
172.	*Pheonix sylvestris*	Chhind	Arecaceae	Tree
173.	*Phoenix acaulis*	Chhind	Arecaceae	Shrub
174.	*Phylanthes nirurii.*	Bhui aonla	Euphorbiaceae	Herb
175.	*Phyllanthus amarus*	Bhui aonla	Euphorbiaceae	Herb
176.	*Pithecellobium dulce*	Jangal jalebee	Mimosaceae	Tree
177.	*Plumbago zeylanica*	Chitrak	Plumbaginaceae	Herb
178.	*Pogostemon benghalensis*	Kora	Lamiaceae	Shrub
179.	*Polyathia longifolia*	Ashok	Annonaceae	Tree
180.	*Polygala chinensis*	Beejnori	Plygalaceae	Herb
181.	*Polygonum barbatum*	Jalbet	Polygonaceae	Shrub
182.	*Pongamia pinnata*	Karanj	Fabaceae	Tree
183.	*Pterocarpus marsupium*	Beejasal	Fabaceae	Tree
184.	*Pueraria tuberose*	Bidari kand	Fabaceae	Climber
185.	*Ricinus communis*	Arandi	Euphorbiaceae	Shrub
186.	*Sapindus emarginatus*	Reetha	Sapindaceae	Tree
187.	*Scheichera oleosa*	Kusum	Sapindaceae	Tree
188.	*Semecarpus anacardium*	Bhilwa	Anacardiaceae	Tree
189.	*Shorea robusta,*	Sal	Simaroubaceae	Tree
190.	*Sida acuta*	Kharenta	Malvaceae	Shrub
191.	*Sida cordifolia*	Mamaas	Malvaceae	Shrub
192.	*Smiax zeylanica*	Ram daton	Smilaceace	Climber
193.	*Solanum nigrum*	Bhatkataiya	Solanaceae	Shrub
194.	*Soymida febrifuga*	Rohan	Meliaceae	Tree
195.	*Sterculia urens*	Kullu	Sterculiaceae	Tree
196.	*Strychnos muxvomica*	Kuchla	Loganiaceae	Tree
197.	*Symplocos cochinchinensis*	Lodh	Symplocaceae	Tree
198.	*Syzygium cumini*	Jamun	Myrtaceae	Tree
199.	*Tabernaemontana divaricata*	Chandni	Apocynaceae	Shrub
200.	*Tamarindus indica*	Imli	Caesalpiniaceae	Tree
201.	*Tamarix aphylla*	Jhhau	Tamaricaceae	Herb
202.	*Tectona grandis*	Sagaun	Verbenaceae	Tree
203.	*Tephrosia purpurea*	Bajradanti	Fabaceae	Shrub

204.	*Terminalia arjuna*	Koha	Combretaceae	Tree
205.	*Terminalia bellirica*	Bahera	Combretaceae	Tree
206.	*Terminalia chebula*	Harad	Combretaceae	Tree
207.	*Terminalia tomentosa*	Saja	Combretaceae	Tree
208.	*Themeda arundinacea*	Dekhana	Poaceae	Grass
209.	*Thespesia lampas*	Ban kapas	Malvaceae	Shrub
210.	*Thevetia nerifolia,*	Kaner	Apocynaceae	Shrub
211.	*Thevetia peruviana*	Peela kaner	Apocynaceae	Shrub
212.	*Thysanolaena maxima*	Phulbahari	Poaceae	Grass
213.	*Tinospora cordifolia*	Giloy	Menispermaceae	Climber
214.	*Trapa nutans*	Singhada	Trapaceae	Herb
215.	*Tribulus terrestris*	Gokharu	Zygophylaceae	Herb
216.	*Tridax procumbens*	Ghamra	Asteraceae	Herb
217.	*Triumfetta rhomboidea*	Anduli	Tiliaceae	Shrub
218.	*Urginea indica*	Jangli pyaj	Smilaceace	Herb
219.	*Ventilago denticulate*	Paper bel	Rhamnaceae	Climber
220.	*Vernonia cenerea*	Mohati	Asteraceae	Shrub
221.	*Vetiveria zizanioides*	Khas	Poaceae	Grass
222.	*Viscum nepalense*	Banda	Loranthaceae	Ep/Para
223.	*Vitex negundo*	Nirgundi	Verbenaceae	Shrub
224.	*Woodfordia frulicosa*	Dhawai	Lythraceae	Shrub
225.	*Wrightia tinctoria*	Dudhi	Apocynaceae	Tree
226.	*Xanthium strumarium*	Bada gokharu	Asteraceae	Herb
227.	*Ziziphus jujuba*	Jharberi	Rhamnaceae	Shrub
228.	*Ziziphus nummularia*	Ber	Rhamnaceae	Shrub
229.	*Ziziphus oenoplia*	Makod	Rhamnaceae	Climber
230.	*Ziziphus xylopyra*	Ghont	Rhamnaceae	Tree
231.	*Zornia gibbosa*	Keoti	Fabaceae	Herb

A total of 231 plant species have been identified out of which different habits namely bamboo, climber, grass, herb, parasite, shrubs and trees are represented by 2, 25, 3, 12, 62, and 43 plant species, respectively. (**Table – 6 & Figure – 6).**

Table - 6 Plants of different habit category

Habit	No. of species
Bamboo	2
Climber	25
Ep/Para	3
Grass	12
Herb	62
Shrub	43
Tree	84

Among the total 80 families found at the study sites, families namely Amarylideaceae, Apiaceae, Aristolochiaceae, Bignoniaceae, Bombacaceae, Buseraceae,

Celastraceae, Chenopodiaceae, Costaceae, Dilleniaceae, Hypoxidaceae, Lauraceae, Lecythidaceae, Loganiaceae, Melastomataceae, Menispermaceae, Moringaceae, Musaceae, Nyctaginaceae, Nymphaeaceae, Oxalidaceae, Papaveraceae, Plumbaginaceae, Plygalaceae, Polygonaceae, Pontederiaceae, Sapindaceae, Symplocaceae, Tamaricaceae, Trapaceae, Ulmaceae, Vitaceae and Zygophylaceae were found as monogtypic families as they have only single plant species. Accordingly families viz**.** Agavaceae, Araceae, Arecaceae, Capparaceae, Dioscoreaceae, Flacourtiaceae, Myrtaceae, Rutaceae, Simaroubaceae, Smilaceace, Sterculiaceae, Tiliaceae, Agavaceae, Araceae, Arecaceae, Capparaceae, Dioscoreaceae, Flacourticaea, Myrtaceae, Rutaceae, Simaroubaceae, Smilaceace, Sterculiaceae and Tiliaceae **are having two species.**

Fabaceae was found as the most dominant family and holds the first position with 20 species followed by Poaceae having 13 species. The other major dominant families on third position to tenth position are given in **Table – 7 & Fig. - 7**.

Table - 7 Ten dominant positions of different families

Dominant position	Name of families	No. of species
I	Fabaceae	20
II	Poaceae	13
III	Euphorbiaceae	12
IV	Asteraceae	10
V	Apocynaceae and Caesalpiniaceae	8
VI	Mimosaceae and Rubiaceae	7
VII	Malvaceae	6
VIII	Amaranthaceae, Combretaceae, Lamiaceae, Lilliaceae, Rhamnaceae and Verbenaceae	5
IX	Acanthaceae, Anacardiaceae, Asclepiadaceae and Solanaceae	4
X	Annonaceae, Convolvulaceae, Loranthaceae, Lythraceae, Meliaceae, Moraceae, Oleaceae, Sapindaceae, Sapotaceae and Zingiberaceae	3

Phytosociology

Total 48 tree species were recorded from different sacred groves in the study area. **Table – 8** shows the phytosociological attribute of tree species diversity determined with reference to frequency %, density ha^{-1}, IVI and diversity index. Species namely *Butea monosperma, Lagerstoemia parviflora, Madhuca latifolia, Mangifera indica and Syzygium cumini are* showing 50 to 75% frequency, whereas, *Sterculia urens, Boswelia serreta, Adina cordifolia, Emblica officinalis, Ougeinia oogeinensis, Soymida febrifuga, Azadiracta indica, Bahunia variagata, Mitragyna parviflora, Buchanania lanzan, Shorea robesta, Terminalia chebula, Temerindus indica, Ficus bengalansis, Schlechera oleosa, Anogeissus pedula* and *Ficus rumphii* show 25 to 50% and *Anogeissus latifolia, Bridellia retusa, Careya arborea, Cassia fistula, Diospyros melanoxylon, Eucalyptis sp., Ficus tomentosa, Grewia tilifolia, Haldinia cordifolia, Holoptelia integrifolia, Kydia calycina, Lannea grandis, Leucaena leucocephela, Litsea glutinosa, Mallotus phillipensis, Manilkara hexandra, Miliusa tomentosa, Morus alba, Murraya koenighii, Phoenix sylvestre, Pongamia pinnata, Semecarpus anacardium, Tectona grandis, Terminalia alata, Terminalia arjuna* and *Terminalia bellirica* show less than 25% frequency class. The maximum values of density more than 20 trees per ha. occupied by the species *Tectona grandis, Shorea robesta* and *Mangifera indica.* The highest IVI value (33.92) was calculated for *Shorea robusta***.** The

lowest IVI value (1.04) was found for *Lannea grandis.* Maximum and minimum values for diversity index were 0.25 and 0.02 for *Shorea robusta* and *Haldinia cordifolia*, respectively.

Table – 8: Phytosociological attributes of tree species diversity in different sacred groves of Hoshangabad district

S.No.	Botanical Name	F%	Density/Ha	IVI	DI
1	*Adina cordifolia*	30.77	2.32	3.98	0.06
2	*Anogeissus latifolia*	23.08	4.81	6.34	0.08
3	*Anogeissus pedula*	44.87	5.61	7.87	0.10
4	*Azadiracta indica*	35.90	4.81	5.33	0.07
5	*Bahunia variagata*	35.90	3.21	4.62	0.06
6	*Boswelia serreta*	28.21	3.04	4.36	0.06
7	*Bridellia retusa*	15.38	2.00	2.08	0.03
8	*Buchanania lanzan*	38.46	7.37	6.67	0.08
9	*Butea monosperma*	51.28	6.73	7.03	0.09
10	*Careya arborea*	17.95	1.92	2.26	0.04
11	*Casia fistula*	21.79	2.56	2.83	0.04
12	*Diospyros melanoxylon*	25.64	5.37	4.20	0.06
13	*Emblica officinalis*	32.05	5.45	4.96	0.07
14	*Eucalyptis spp.*	14.10	4.81	3.61	0.05
15	*Ficus bengalansis*	43.59	4.01	8.38	0.10
16	*Ficus rumphii*	48.72	6.41	8.17	0.10
17	*Ficus tomentosa*	12.82	4.01	3.81	0.06
18	*Grewia tilifolia*	15.38	2.00	2.40	0.04
19	*Haldinia cordifolia*	6.41	0.80	1.09	0.02
20	*Holoptelia integrifolia*	21.79	1.60	2.94	0.05
21	*Kydia calycina*	19.23	1.52	2.56	0.04
22	*Lagerstoemia parviflora*	51.28	13.46	10.20	0.11
23	*Lannea grandis*	6.41	0.80	1.04	0.02
24	*Leucaena leucocephela*	11.54	2.16	2.08	0.03
25	*Litsea glutinosa*	7.69	0.80	1.14	0.02
26	*Madhuca latifolia*	51.28	16.03	18.15	0.17
27	*Mallotus phillipensis*	14.10	1.60	2.03	0.03
28	*Mangifera indica*	57.69	25.64	33.20	0.24
29	*Manilkara hexandra*	21.79	3.21	3.81	0.06
30	*Miliusa tomentosa*	15.38	1.76	2.01	0.03
31	*Mitragyna parviflora*	37.18	4.81	5.70	0.08
32	*Morus alba*	25.64	2.00	2.90	0.04
33	*Murraya koenighii*	15.38	2.40	2.31	0.04
34	*Ougeinia oogeinensis*	32.05	4.17	5.15	0.07
35	*Phoenix sylvestre*	25.64	4.01	3.78	0.06
36	*Pongamia pinnata*	16.67	2.00	2.58	0.04
37	*Schlechera oleosa*	43.59	9.38	15.74	0.15
38	*Semecarpus anacardium*	12.82	1.52	1.92	0.03
39	*Shorea robesta*	38.46	23.88	33.92	0.25
40	*Soymida febrifuga*	32.05	3.61	4.77	0.07
41	*Sterculia urens*	25.64	3.85	4.65	0.06
42	*Syzygium cumini*	70.51	12.82	14.27	0.14
43	*Tectona grandis*	21.79	16.03	9.17	0.11
44	*Temerindus indica*	42.31	4.33	7.88	0.10
45	*Terminalia alata*	16.67	1.60	2.08	0.03

46	*Terminalia arjuna*	14.10	3.53	4.79	0.07
47	*Terminalia bellirica*	24.36	4.57	3.97	0.06
48	*Terminalia chebula*	38.46	5.13	5.29	0.07
			255.45	**300.00**	**3.49**

The status of shrub layer is constituted by an association of 37 species. Maximum density was determined as 3800 plants^{-1} for *Eranthemum purpurascens* followed by *Parthenium hetrosporium* as 3000 plants^{-1}. The maximum IVI and diversity index values were also determined for species namely *Eranthemum purpurascens* (IVI – 27.96) and 0.22 (**Table - 9**).

Table - 9: Phytosociological attributes of shrub species diversity

Botanical Name	**F%**	**Density/ha**	**IVI**	**DI**
Abormia aungusta	5.56	22.22	1.16	0.02
Acacia arabica	33.33	866.67	10.01	0.11
Acacia leucophloea	5.56	44.44	2.00	0.03
Acacia nilotica	27.78	111.11	2.79	0.04
Adhatoda vasica	27.78	400.00	5.80	0.08
Adina cordifolia	44.44	622.22	7.51	0.09
Aegle marmelos	22.22	133.33	2.92	0.05
Agave sissalna	55.56	577.78	7.32	0.09
Anogeissus latifolia	55.56	1488.89	13.72	0.14
Argemone maxicana	50.00	377.78	5.73	0.08
Barleria cristata	44.44	1333.33	13.11	0.14
Bridelia retusa	38.89	311.11	4.92	0.07
Buchanania lanzan	66.67	511.11	7.21	0.09
Butea monosperma	72.22	688.89	8.54	0.10
Carissa opaca	55.56	288.89	5.29	0.07
Casia fistula	55.56	444.44	6.38	0.08
Cassia spinarum	33.33	1066.67	11.87	0.13
Dedonia viscosa	27.78	666.67	8.58	0.10
Dendrocalamus strictus	5.56	88.89	3.67	0.05
Diospyros melanoxylon	88.89	1666.67	14.80	0.15
Dodonaea viscosa	66.67	2044.44	17.12	0.16
Eranthemum purpurascens	72.22	3800.00	27.96	0.22
Helicteres isora	44.44	288.89	4.88	0.07
Indigofera indica	27.78	355.56	5.34	0.07
Lantana camara	100.00	1422.22	13.71	0.14
Mimosa pudica	44.44	333.33	5.23	0.07
Parthenium hetrosporium	94.44	3000.00	22.42	0.19
Pheonix acaulis	38.89	266.67	4.54	0.06
Semecapus anacardium	33.33	177.78	3.61	0.05
Sida cordifolia	66.67	1244.44	11.95	0.13
Sida spinosa	50.00	1044.44	10.67	0.12
Sygium cumuani	44.44	266.67	4.71	0.07
Tectona grandis	72.22	711.11	8.67	0.10

Terminalia alata	44.44	288.89	4.88	0.07
Woodfordia frulicosa	66.67	466.67	6.92	0.09
Zyzipus jujuba	11.11	44.44	1.57	0.03
Zyzipus oneophlea	11.11	88.89	2.48	0.04
		27555.56	**300.00**	**3.39**

The total 36 herb species was recorded from the study area. Total density of the herbecious flora is 27555.56/ ha., out of which the maximum density is contributed by *Cynodon dactylon* (9666.97 plants^{-1}). **Table - 10** reveals that maximum and minimum IVI and diversity index values of herbaceous layer in this area were recorded for *Cynodon dactylon* 17.31; 0.16 and *Heteropogon contortus* 1.47; 0.03.

Table - 10: Phytosociological attributes of herbaceous species diversity

Botanical Name	F%	Density/ ha	IVI	DI
Abutilon indicum	43.33	4333.33	8.81	0.10
Achyranthes aspara	76.67	7666.67	12.82	0.13
Alternanthera fiscodes	10.00	1000.00	2.61	0.04
Alternanthera sessilis	16.67	1666.67	4.01	0.06
Andrographis paniculata	26.67	2666.67	5.36	0.07
Boerhavvia diffusa	16.67	1666.67	4.11	0.06
Cassia tora	80.00	8000.00	14.04	0.14
Cassia spinosa	16.67	1666.67	4.40	0.06
Coculus hirsutus	16.67	1666.67	4.80	0.07
Cynodon dactylon	96.67	9666.67	17.31	0.16
Cyperus iria	66.67	6666.67	11.69	0.13
Cyperus nivens	16.67	1666.67	5.99	0.08
Cyperus squarrosus	16.67	1666.67	5.99	0.08
Cyperus triceps	43.33	4333.33	7.71	0.09
Desmodium febrifusium	6.67	666.67	2.21	0.04
Desmodium tifolium	70.00	7000.00	12.27	0.13
Eclipta alba	10.00	1000.00	2.77	0.04
Eragrostis tenella	46.67	4666.67	8.62	0.10
Evolvulus alsinoides	16.67	1666.67	4.40	0.06
Euphorbia hirta	6.67	666.67	2.45	0.04
Gardenia lucida	33.33	3333.33	6.58	0.08

Grewia hirsuta	13.33	1333.33	3.18	0.05
Hemidesmus indicus	43.33	4333.33	7.67	0.09
Heteropogon contortus	3.33	333.33	1.47	0.03
Hyptis suaveolens	16.67	1666.67	5.89	0.08
Indigofera pulchelli	16.67	1666.67	5.89	0.08
Ocimum canum	56.67	5666.67	10.27	0.12
Oxalis corniculata	6.67	666.67	4.44	0.06
Parthenium hetrosporium	16.67	1666.67	3.91	0.06
Sida acuta	60.00	6000.00	10.56	0.12
Sida spinosa	23.33	2333.33	5.65	0.07
Tridax procumbens	46.67	4666.67	8.65	0.10
Triumfetta rhombodia	20.00	2000.00	4.47	0.06
Xanthium strumarium	16.67	1666.67	3.91	0.06
Ziziphus jujuba	16.67	1666.67	3.91	0.06
Zornia gibbosa	16.67	1666.67	4.01	0.06
		137666.67	**300.00**	**3.75**

COMMUNITY CORRELATION COEFFICIENT

We had proposed to calculate community correlation coefficient assuming that certain sacred groves might be large in size but after survey, it was found that none of the sacred groves in the study area was larger than 500 m^2 in size. Community correlation coefficient can be of significance only in larger area. Therefore, this coefficient was not calculated to record the difference between plant or otherwise community and as vegetation thus not very much in smaller areas as 1000 m^2 therefore it was not calculated. We have calculated Density, Frequency, Abundance, Important Value Index and Diversity Index under Phyto-sociological study of the Sacred Groves.

FAUNAL DIVERSITY

A list of 66 wild faunal species has been prepared on the basis of indirect and direct evidence during the field survey. Scientific, English and Hindi names are given in the **Table – 11**.

Table - 11: List of wild animals and birds sited during survey

S. No.	Scientific name	English name	Hindi name
1.	*Anas crecca*	Common Teal	dsjk
2.	*Anas querquedula*	Blue winged teal	[kSjk
3.	*Axis axis*	Spotted Deer	phry
4.	*Aythya nyroca*	White eyed pochard	dqjfpik
5.	*Bandicota indica*	Indian Mole Rat	pwgk
6.	*Bos gaurus*	Baisen	xkSj
7.	*Boselaphus tragocamelus*	Blue bull	uhyxk;
8.	*Caen alpinues*	Wild Dog	taxyh dqRrk
9.	*Canis aureus*	Jackal	xhnM+
10	*Catla catla*	Catla	dryk
11	*Cervus unicolour*	Sambhar	lkaHkj
12	*Colones carsicolor*	Chamelion	fxjfxV
13	*Columba livia*	Black rock pigeon	dcwrj
14	*Coturnix conturnix*	Common Or grey quail	cVsj
15	*Crocodylus Pulustris*	Crocodile	exjePN
16	*Cynopteus sphinx*	Short nosed fruit bat	pexknM+
17	*Egretta garzetta*	Little egret	fdpfyik
18	*Felis chaus*	Jungle Cat	taxyh fcYyh
19	*Francolinus franco linus*	Black Partridge	dkyk rhrj
20	*Francolinus pondicerianus*	Grey partridge	lQsn rhrj
21	*Funambulus pennanti*	Fivestriped Palmsqurrel	fxygjh
22	*Gallinula chloropus*	Indian moorhen	ty eqxkZ
23	*Galloperdix spadica*	Red spur fowl	NksVh taxyh eqxhZ
24	*Gallus gallus*	Red jungle fowl	taxyh eqxhZ
25	*Gecko gecko*	Lizzard	fNidyh
26	*Geomidatrojuga*	Tortoies	dNqvk
27	*Grus antigone*	Saurus crane	lkjl
28	*Gyps bengalensis*	Whitebacked Vulture	fx)
29	*Hemiechinus auritus*	Logered Hedgehog	fxjfxV
30	*Herpestes edwardsi*	Common Mongoose	usoyk
31	*Hyaena hyaena*	Striped hyena	ydM+cXxk
32	*Hydrophasiannus chirurgus*	Pheasant tailed Jacana	figqvk
33	*Laberrohita sp.*	Rahu	jksgw
34	*Lepus nigricollis*	Indian hare	[kjxks'k
35	*Lycodon aulicus*	Dhaman	/kkeu
36	*Macaca mulatto*	Rhesus macaque	canj
37	*Malursus ursinus*	Sloth bear	Hkkyw] jhN

38	*Milvus migrans*	Common pariah kite	phy
39	*Muntiacus muntjak*	Indian Muntjac, Barking deer	dksVjh HksM+dh
40	*Naja naja*	Cobra	ukx
41	*Ophicephelus marulias*	Large marel	xkxjk
42	*Panthera pardus*	Panther or leopard	xqyck?k@rsanqvk
43	*Panthera tigris*	Tiger	'ksj] ukgj] ck?k
44	*Pavo cristatus*	Common Pea fowl	eksj] eiwj
45	*Perdicula asiatica*	Jungle bush quail	ykok
46	*Phalacrocorax niger*	Little cormorant	iu dkSvk
47	*Pithon molurus*	Pithon	vtxj
48	*Porphyrio parphyrio*	Purple moorhen	dyhe
49	*Presbytis entellus*	Common Langur	yaxwj
50	*Psittacula cyanocephala*	Blossomheaded Parakeet	VqbZik¡ rksrk
51	*Psittacula eqpatria*	Large Indian Parakeet	jkirksrk
52	*Psittacula krameri*	Roseringed Parakeet	rksrk
53	*Spilornis cheela*	Crested serpent Eagle	Mksxjk phy
54	*Streptopelia chinensis*	Spotted Dove	fpVVk Qk[rk
55	*Streptopelia decaocto*	Ringh Dove	<ksjQk[rk
56	*Streptopelia tranquevarica*	Red turtle Dove	fxjoh Qk[rk
57	*Suncus suncus*	Grey Musk-shrew	NaNwnj
58	*Sus scrofa*	Indian Wild Boar	lqvj
59	*Tadorna ferruginea*	Brahminy Duck	lqj[kkc
60	*Tetracerus quadricornis*	Four horned antelope	pkSflaxk
61	*Threskiornis sp.*	White ibis	lQsn ckt
62	*Treron phoenicoptera*	Common green pigeon	gfjiy
63	*Vanellus indicus*	Red wattled lapwing	frrqjh
64	*Varenus benulensis*	Monitor lizzard	xksg
65	*Vippera russelli*	Russil viper	nks cksbZ;k
66	*Vulpus bengalensis*	Indian Fox	ykseM+h

ETHNOBOTANICAL KNOWLEDGE

Forest resources, comprising of whole plants, plant parts and their products available in the area, have direct and indirect impact on the life of local tribals, forest dwellers and many other inhabitant groups. The sociological system, custom, cultures and life patterns of these groups are also closely related with forests. They utilize forest produce for food, fodder, medicine, fuel, gum, agricultural implements, aromatic oils, basketry works, charcoal, decoration, defence equipment, dye, fencing, fishing, furniture, house building, hunting equipments, implements, musical instruments, poison, rope, smoking, socio-religious activities, timber, tools, utensils etc. for their sustenance, daily needs and many other consumer products for self-consumption. Forests are not only the source of major and minor forest produce but also fulfil the basic day to day needs and demands, directly and indirectly in life pattern of forest fringe dwelling communities. They also use an enormous range of wild plants and have developed a unique understanding of the forest resources and passed on these traditions, taboos, totems, folklore, traditional medicinal remedies and knowledge etc. by word of mouth from one generation to other generation. They also have the key to

understand, utilize and conserve the plant resources. The storage of ethnobotanical traditional knowledge of plant and animal origin in memory is really a God's gift for a resource person in each tribal group. Each tribal group has different ethnobotanical knowledge than its neighbors, which is either acculturated or lost with the knowledgeable person of that tribe.

Local population of the villages is also engaged in collection of food items like vegetables, leaves, fruits, seeds, tubers, pehri etc. from wild for their self sustenance. These plants species are utilized according to their availability during the season and scarcity as raw, after cooking, boiling, when ripe, after making paste, in the form of juice, prickles, etc. Plants are also utilized in manyfolds ways in making agricultural implements, as aromatic agent, basketry work, decoration, defence equipments, dyes and tannins, fencing and protection, fishing and hunting, fibers, fodder, fuel, furniture and house building, implements and tools, socio-religious and sacred purpose. Names of the plants representing different ethno-botanical use categories are given in **Table – 12.**

Table – 12 Names of the plants representing different ethno-botanical use categories

Use category	Name of plants
Agricultural implements	*Acacia nilotica*, *Ailanthus excelsa*, *Albizia procera*, *Anogeissus latifolia*, *Bambusa arundinacea*, *Boswellia serrata*, *Buchanania lanzan, Careya arborea*, *Cassia fistula*, *Cordia dichotoma*, *Dalbergia latifolia, Dillenia pentagyna*, *Diospyos melanoxylon*, *Gmelina arborea*, *Grewia tiliifolia*, *Holoptelea integrifolia*, *Kydia calycina*, *Lagerstoemia parviflora*, *Mitragyna parviflora*, *Ougeinia oogeinensis*, *Pterocarpus marsupium*, *Schleichera oleosa*, *Tectona grandis, Terminalia arjuna, Terminalia bellirica*, *Terminalia chebula* and *Wrightia tinctoria*.
Basketry work	*Abutilon indicum*, *Agave americana, Apluda mutica*, *Bambusa arundinacea*, *Bauhinia vahlli, Bombax ceiba*, *Butea monosperma*, *Dendrocalamus strictus*, *Vitex negundo* and *Woodfordia fruticosa.*
Decoration	*Bambusa arundinacea, Bauhinia vahlli, Bombax ceiba*, *Butea monosperma*, *Dendrocalamus strictus* and *Mangifera indica*.
Defense / Fishing / Hunting Equipments	*Ailanthus excelsa*, *Albizia procera*, *Bambusa arundinacea*, *Bauhinia vahlli, Butea monosperma*, *Ceiba pentandra*, *Dendrocalamus strictus*, *Madhuca latifolia*, *Mangifera indica, Nyctanthus arbor-tristis*, *Sterculia urens*, *Tectona grandis* and *Vitex negundo*.
Dyes / Tannin	*Acacia nilotica*, *Butea monosperma*, *Dalbergia latifolia, Ficus hispida*, *Mitragyna parviflora*, *Nyctanthus arbor-tristis*, *Phylanthus emblica, Syzygium heyneanum*, *Terminalia arjuna, Terminalia bellirica, Terminalia chebula and Woodfordia fruticosa.*
Fencing / Hedge / Protection	*Bambusa arundinacea*, *Bauhinia vahlli, Clerodendrum serratum*, *Dendrocalamus strictus*, *Jatropha curcas* and *Ipomea fistulosa*.

Fodder	*Acacia nilotica*, *Amaranthus viridis*, *Annona squamosa*, *Apluda mutica*, *Bambusa arundinacea*, *Bauhinia variegata*, *Boerhavia diffusa*, *Bombax ceiba*, *Butea monosperma*, *Capparis zeylanica*, *Cassia tora*, *Cynodon dactylon*, *Dendrocalamus strictus*, *Desmodium pulchellum, Diospyos melanoxylon*, *Feronia limonia*, *Ficus benghalensis, Ficus religiosa, Grewia hirsuta*, *Holoptelea integrifolia*, *Mangifera indica*, *Phylanthus emblica, Pithecelobium dulce*, *Schleichera oleosa, Syzygium cumini*, *Syzygium heyneanum*, *Tribulus terrestris*, *Ziziphus mauritiana* and *Ziziphus nummularia.*
Fuel	*Acacia nilotica*, *Ailanthus excelsa*, *Albizia lebbeck*, *Albizia procera*, *Anogeissus latifolia*, *Antidesma ghassembilla, Bambusa arundinacea*, *Bauhinia variegata*, *Bombax ceiba*, *Boswellia serrata*, *Bridelia retusa*, *Buchanania lanzan*, *Butea monosperma*, *Careya arborea, Cassia fistula*, *Cassia tora*, *Ceiba pentandra*, *Cordia dichotoma*, *Dalbergia latifolia*, *Dendrocalamus strictus*, *Diospyos melanoxylon*, *Helicteres isora*, *Holoptelea integrifolia*, *Kydia calycina*, *Lantana camara*, *Mangifera indica*, *Schleichera oleosa*, *Syzygium cumini, Tectona grandis*, *Terminalia chebula*, *Vitex negundo* and *Woodfordia fruticosa*.
Furniture / House Building / Tools / Implements	*Acacia nilotica*, *Albizia procera*, *Anogeissus latifolia, Bambusa arundinacea*, *Bauhinia vahlli, Bauhinia variegata*, *Boswellia serrata*, *Dalbergia latifolia*, *Dendrocalamus strictus*, *Diospyros melanoxylon*, *Kydia calycina*, *Lagerstoemia parviflora*, *Mitragyna parviflora*, *Schleichera oleosa, Soymida febrifuga*, *Tectona grandis* and *Terminalia chebula*.
Medicinal plants	*Abrus precatorius, Abutilon indicum, Acacia nilotica, Achyranthes aspera, Acorus calamus, Adhatoda vasica, Aegle marmelos, Aloe vera, Andrographis paniculata, Argemone mexicana, Asparagus racemosus, Azadirachta indica, Butea monosperma, Calotropis procera, Cassia tora, Catharanthus roseus, Centella asiatica, Chlorophytum* tuberosum, *Cissus quadrangularis, Costus speciosus, Curculigo orchoides, Datura metal, Eclipta prostrate, Emblica officinalis, Evolvulus alsinoides, Gymnema sylvestre, Helicteres isora, Hyptis suaveolens, Mangifera indica*, *Mitragyna parviflora, Moringa oleifera, Mucuna pruriens, Nyctanthus arbortistis, Ocimum sanctum, Plumbago zeylanica, Pongamia pinnata, Ruta graveolens, Semecarpus anacardium, Sida acuta, Sida cordifolia, Solanum nigrum, Syzygium cumini, Terminalia arjuna, Terminalia bellerica*, *Terminalia chebula, Tridex procumbens* and *Vitex negundo.*
Socio cultural / socio religious / worship	*Aegle marmelos, Annona squamosa*, *Buchanania lanzan, Calotropis gigantea*, *Cynodon dactylon*, *Cyperus rotundus*,

	Datura metel, Datura stramonium, *Diospyos melanoxylon*, *Ficus benghalensis*, *Ficus religiosa*, *Mangifera indica, Melia azedarach*, *Nyctanthus arbor-tristis*, *Syzygium cumini*, *Ziziphus mauritiana* and *Ziziphus nummularia*.
Edible plants	*Abelmoschus manihot, Aegle marmelos, Amaranthus viridis, Annona squamosa, Anthocephalus cadamba, Artocarpus lakoocha, Asparagus racemosus, Bauhinia vahlli, Bauhinia variegata, Buchanania lanzan, Capparis zeylanica, Carissa carandas, Cassia tora, Chlorophytum auruandinaceum, Coccinia grandis, Cordia dichotoma, Diospyos melanoxylon, Feronia limonia, Ficus glomerata, Holoptelea integrifolia, Ipomoea nil, Madhuca indica, Mangifera indica, Manilkara hexandra, Moringa oleifera, Mucuna pruriens, Pithecelobium dulce, Schleichera oleosa, Semecarpus anacardium, Syzygium cumini, Syzygium heyneanum, Tamarindus indica, Ziziphus mauritiana, Ziziphus nummularia and Ziziphus oenoplia.*

STATUS OF ENDEMIC, RARE AND THREATENED MEDICINAL PLANTS

Inventory of endemic, rare and threatened medicinal plants has been prepared on the basis of seasonal survey and available field informations. IUCN red list category and threat assessment methods for evaluating the status of medicinal plants have been followed as per threat area. No endemic medicinal plant species was identified from the sacred groves. 7 vulernable and 1 endangered species were identified during the survey. Status of endemic, rare and threatened medicinal plants in all Sacred Groves is presented in the following **Table – 13** with names of plant species, families and threat status of the species. Data sheets of all threatened species have been prepared and given accordingly.

Table – 13: Red list categories of medicinal plants

S. No.	NAME OF SPECIES	FAMILY	THREAT STATTUS
17.	*Andrographis paniculata (Burm. F) Wall.*	Acanthaceae	VU
18.	*Bacopa monnieri (L) Wettst.*	Scrophulariaceae	VU
19.	*Centella asiatica (L) Urban.*	Apiaceae	VU
20.	*Costus speciosus L.*	Zingiberaceae	VU
21.	*Embelia tesjeriam-cotton*	Euphorbiaceae	VU
22.	*Equisetum ramosissimum Desf.*	Equisetaceae	EN
23.	*Gloriosa superba L.*	Liliaceae	VU
24.	*Litsea glutinosa (Lour) C. B. Robins*	Lauraceae	VU

RARE, ENDEMIC AND THREATENED PLANTS

DATA SHEET – 1

Botanical name		***Andrographis paniculata (*Burmf.) Wall. ex Nees**							
Basionys/Synonym(s)		Kalmegh, Kaduchirayta, Bhuineem							
Family		**Acanthaceae**							
Taxonomic status		Species							
Vernacular names		Karuchirayata, Kalmegh, Bhuineem							
Habit		Herb							
Habitat		Tropical deciduous forest							
Original global distribution		India, tropical countries							
Current regional distribution		Through out the state							
Elevation range (M)		300-900							
Population reduction (pl. tick in appropriate cell)		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**				
			√						
Time/Rate(Year/generation)		10 years							
Extend of occurrence (EOO)		Km^2	<20,000						
Area of occurrence (AOO)		Km^2	<2,000						
No. of location /Sub-Population		Many							
Data quality		3,4							
Threads		E (Edaphic factors), Hm (Harvest for medicine), T (Trade), Sd (Drought)							
Trade	**Names**	Kalmegh							
	Level(S)	Local	√	Regional	√	National	√	Global	√
	Part traded	Whole plant							
	Effect of population	Declining							
	Data quality	3,4							
Other comments		Whole plant in useful. Therefore sustainable harvest is proposed.							
Recent field of studies		• Ministry of Health and Family welfare, • Govt. of India, • DISM, • WHO-Demand study for selected medicinal plants, 2001-2002.							
Status									
- CITIES		-							
- Legislation		-							
- Criteria based on		A2cd							
- IUCN		VU							
% of global distribution		1%							
Existing conservation measure		-							
Is the presence of taxon continuous with neighboring areas		Yes							
Are the outside population also under similar threads /pressure		Yes							
Recommendations									
Research /Management		Biotic impact, Regeneration/Sustainable harvesting							

	technique.
a. i*n-Situ*	
b. *ex–Situ*	
i) Cultivation	Under trials
ii) Levels of difficulty in propagation / cultivation	1 (Least difficult)
Existing cultivation	An *ex-situ* cultivation by the farmers have been started
Previous assessment	Yes. Previous CAMP

DATA SHEET – 2

Botanical name		*Bacopa monnieri (*L.) Wettst.						
Basionys/Synonym(s)		*Lysimachia monnieri* L.						
Family		Scrophulariaceae						
Taxonomic status		Species						
Vernacular names		Bramhi, Jal Brachmi, Jal Neem.						
Habit		Prostrate herb, rooting at the nodes.						
Habitat		Marshy wet places near lakes and ponds.						
Original global distribution		Throughout India, Ceylon, Malaya and all the tropical/sub tropical region of the world.						
Current regional distribution		• Bhopal (Lower lake 74 Baungalows), • Vidisha (Lateri).						
Elevation range (M)		400-600						
Population reduction (pl. tick in appropriate cell)		<30%	30 to 49%	50 to 80%	>80%			
			√					
Time/Rate(Year/generation)		10 years						
Extend of occurrence (EOO)		Km^2	>2000					
Area of occurrence (AOO)		Km^2	>200					
No. of location /Sub-Population		4 District						
Data quality		2, 4						
Threads		Hm						
Trade	Names	Bramhi						
	Level(S)	Local		Regional		National	√	Global
	Part traded	Whole plant						
	Effect of population	Declining						
	Data quality	2, 4						
Other comments		The stalks and leaves used medicinally in rheumatism, gonorrheal and also taken as nerving tonic.						
Recent field of studies		• Department of Botany, Sarojini Naidu Govt. girls P.G. College, Shivaji Nagar, Bhopal 2005.						
Status								
- CITIES		-						
- Legislation		-						
- Criteria based on		A2cd						
- IUCN		VU						
% of global distribution		<1%						
Existing conservation measure								
Is the presence of taxon continuous with neighboring areas		Yes						
Are the outside population also under similar threads /pressure		Yes						
Recommendations								
Research /Management								
a. i*n-Situ*		√						
b. *ex–Situ*		Tissue Culture, vegetation propagation by cutting.						
i) Cultivation		Should be cultivated						

ii) Levels of difficulty in propagation / cultivation	
Existing cultivation	Not in cultivation
Previous assessment	Nil

DATA SHEET – 3

Botanical name		*Centella asiatica (*L.) Urban.						
Basionys/Synonym(s)		*Hydrocoptyle asiatica* L.						
Family		Apiaceae						
Taxonomic status		Species						
Vernacular names		Bramhi, Mandukparni, Brahm manduki.						
Habit		Slender herbaceous, rooting at the nodes.						
Habitat		Moist places.						
Original global distribution		Throughout India, Base of Himalaya, Ceylon, Malaya and all the tropical/sub tropical region of the world.						
Current regional distribution		• Bhopal (Moti Maszid), • Raisen (Halali Dam), • Bhopal (Bhadbhada).						
Elevation range (M)		400-600						
Population reduction (pl. tick in appropriate cell)		<30%		30 to 49%		50 to 80%		>80%
				√				
Time/Rate(Year/generation)		10 years						
Extend of occurrence (EOO)		Km^2	>2000					
Area of occurrence (AOO)		Km^2	>200					
No. of location /Sub-Population		3 District						
Data quality		2, 4						
Threads		Hm, T						
Trade	Names	Bramhi						
	Level(S)	Local		Regional	√	National	√	Global
	Part traded	Whole plant						
	Effect of population	Declining						
	Data quality	2, 4						
Other comments		As brain tonic. In skin diseases, Trberculosis, Anemia, Asthma, Madness, Cholera, heat effect, wound healing.						
Recent field of studies		• Department of Botany, • Sarojini Naidu Govt. girls P.G. College, • Shivaji Nagar, Bhopal 2005.						
Status								
- CITIES		-						
- Legislation		-						
- Criteria based on		A2cd						
- IUCN		VU						
% of global distribution		<2%						
Existing conservation measure								
Is the presence of taxon continuous with neighboring areas		Yes						
Are the outside population also under similar threads /pressure		Yes						
Recommendations								
Research /Management								
a. i*n-Situ*		Management needed.						
b. *ex–Situ*		Vegetative propagation.						

i) Cultivation	Nil
ii) Levels of difficulty in propagation / cultivation	-
Existing cultivation	Not in cultivation
Previous assessment	Nil

DATA SHEET – 4

Botanical name		*Costus speciosus* (J. Koenig ex Retz.) Sm.						
Basionys/Synonym(s)		*Banksea speciosa* J. Koenig						
Family		Costaceae						
Taxonomic status		Species						
Vernacular names		Keokanda						
Habit		Herb						
Habitat		Sal forest and deforested lands in shady places						
Original global distribution		India, SriLanka, SE Asia, Africa, Australiya.						
Current regional distribution		• Balaghat, • Hoshangabad, • Damoh, • Sidhi, • Rewa, • Mandla, • Seoni, • Dindori.						
Elevation range (M)		200-1000						
Population reduction (pl. tick in appropriate cell)		<30%	30 to 49%	50 to 80%	>80%			
			√					
Time/Rate(Year/generation)		10 Years						
Extend of occurrence (EOO)		Km^2	>20,000					
Area of occurrence (AOO)		Km^2	>2,000					
No. of location /Sub-Population		Wide distribution.						
Data quality		3, 4						
Threads		Hm, Tp, Hf.						
Trade	Names	Keo-kanda						
	Level(S)	Local	√	Regional	√	National	√	Global
	Part traded	Rhizome						
	Effect of population	Declining						
	Data quality	3, 4						
Other comments		Seed information becomes scanty due to early harvesting.						
Recent field of studies		Tiwari *et.al.*2002-2003 Shrivastava, O.L. & Sumita Shrivatava, 1997-99 SFRI publication, 1990-2000.						
Status								
- CITIES		-						
- Legislation		-						
- Criteria based on		A2cd						
- IUCN		VU						
% of global distribution		<5%						
Existing conservation measure		Nil						
Is the presence of taxon continuous with neighboring areas		Yes						
Are the outside population also		Yes						

under similar threads /pressure	
Recommendations	
Research /Management	Multiplication in protected area, Sustainable harvesting techniques, Seed biology, Growth behavior.
a. i*n-Situ*	Mandla.
b. *ex–Situ*	
i) Cultivation	Experimentation on agronomy as well as fertilizers.
ii) Levels of difficulty in propagation / cultivation	1 (Least difficult)
Existing cultivation	Yes (<1%)
Previous assessment	-

DATA SHEET – 5

Botanical name		*Embelia tsjeriam-cottam* DC.						
Basionys/Synonym(s)		*Embelia robusta* C.B. Clarke non-Roxb.						
Family		Myrsinaceae						
Taxonomic status		Species						
Vernacular names		Bailbirang, Vidayng, Vaividang.						
Habit		Shrub						
Habitat		In mixed deciduous forests						
Original global distribution		Indo Malayan region.						
Current regional distribution		Through out.						
Elevation range (M)		200-1000						
Population reduction (pl. tick in appropriate cell)		<30%	30 to 49%	50 to 80%	>80%			
			√					
Time/Rate(Year/generation)		3 Generations						
Extend of occurrence (EOO)		Km^2	>20,000					
Area of occurrence (AOO)		Km^2	>2,000					
No. of location /Sub-Population		>500 locations						
Data quality		2, 3, 4						
Threads		Hm, T, Sf, L.						
Trade	Names	Baibirang						
	Level(S)	Local	√	Regional	√	National	√	Global	√
	Part traded	Seeds						
	Effect of population	Declining						
	Data quality	2, 3, 4						
Other comments		Sustainable harvesting should be promoted.						
Recent field of studies		• Asolkar, Kakkar & Chakre, 1965-1981. Glossary of Indian medicinal plants with active principles. Part 1., • MHFW & H, 2001-02, Vol. I.						
Status								
- CITIES		-						
- Legislation		-						
- Criteria based on		A2cd						
- IUCN		NT						
% of global distribution		>30%						
Existing conservation measure		-						
Is the presence of taxon continuous with neighboring areas		Yes						
Are the outside population also under similar threads /pressure		Yes						
Recommendations								
Research /Management		Hm (Habitat management.), S (Survey, search and find.)						
a. i*n-Situ*		Amarkantak.						
b. *ex–Situ*		-						
i) Cultivation		3						
ii) Levels of difficulty in propagation / cultivation		2 (Moderately difficult)						

Existing cultivation	Not in cultivation
Previous assessment	-

DATA SHEET – 6

Botanical name		*Equisetum ramosissimum* Desf.						
Basionys/Synonym(s)		*Equisetem debile* Roxb. Ex Vauch.						
Family		Equisetaceae						
Taxonomic status		Species						
Vernacular names		Medju, Maringir						
Habit		Large herb						
Habitat		Shady damp areas, in sandy alluvial humus soil lower elevation.						
Original global distribution								
Current regional distribution		• Hoshangabad (Malakhedi), • Shahdol (Dughadhara, • Mandla (Mawai), • Rewa (Bouti).						
Elevation range (M)		300-800						
Population reduction (pl. tick in appropriate cell)		<30%	30 to 49%	50 to 80%	>80%			
				√				
Time/Rate(Year/generation)		10 Years						
Extend of occurrence (EOO)		Km^2	>20,000					
Area of occurrence (AOO)		Km^2	>2,000					
No. of location /Sub-Population		4						
Data quality		2, 3, 4						
Threads		E, Hm, L, Encroachment for cultivation. Collection for academic purposes.						
Trade	Names	-						
	Level(S)	Local		Regional	√	National	√	Global
	Part traded	Whole plant, Rhizome and stem as teaching aid (Lab) material.						
	Effect of population	Declining						
	Data quality	2, 3, 4						
Other comments		Used as antidote for snake, scorpion and insect bites.						
Recent field of studies		Upadhyaya *et al.* 2004, Sharma 2004, Masih 1994.						
Status								
- CITIES		-						
- Legislation		-						
- Criteria based on		A2cd						
- IUCN		EN						
% of global distribution		<1%						
Existing conservation measure		No						
Is the presence of taxon continuous with neighboring areas		Yes						
Are the outside population also under similar threads /pressure		Yes						
Recommendations								
Research /Management		S, Lr, Hm, M.						
a. i*n-Situ*		√						

b. *ex–Situ*	Can be done
i) Cultivation	Nil
ii) Levels of difficulty in propagation / cultivation	Nil
Existing cultivation	Not in cultivation
Previous assessment	-

DATA SHEET – 7

Botanical name		*Glorisa superba* L.						
Basionys/Synonym(s)		*Methonia superba* Lamk.						
Family		Liliaceae						
Taxonomic status		Species						
Vernacular names		Kalihari, Karkari, Langali, Glori lily.						
Habit		Climbing herb						
Habitat		Climber						
Original global distribution		Through out tropical Asia and Africa.						
Current regional distribution		• Hoshangabad, • Burhanpur, • Betul, • Moist district.						
Elevation range (M)		280-500						
Population reduction (pl. tick in appropriate cell)		<30%	30 to 49%	50 to 80%	>80%			
			√					
Time/Rate(Year/generation)		10 Years.						
Extend of occurrence (EOO)		Km^2	>5,000					
Area of occurrence (AOO)		Km^2	>2,000					
No. of location /Sub-Population		18						
Data quality		2, 3, 4						
Threads		Hm, T, Sd, L, Sf.						
Trade	Names	Kalihari, Karkari, Langali.						
	Level(S)	Local	√	Regional	√	National	√	Global	√
	Part traded	Rhizome, Seeds.						
	Effect of population	Declining (10 % decrease in last 10 years; 20% decrease expected in next 10 years.)						
	Data quality	2, 3, 4						
Other comments		-						
Recent field of studies		• A.K. Bahttacharya & Krishna Patra- MPMFP Federation publication, • Oudhai P. 2003. www.botanical.com						
Status								
- CITIES		-						
- Legislation		-						
- Criteria based on		A2cd						
- IUCN		VU						
% of global distribution		<1%						
Existing conservation measure		No substantial cultivation.						
Is the presence of taxon continuous with neighboring areas		Yes						
Are the outside population also under similar threads /pressure		Yes						
Recommendations								
Research /Management		Hm (Habitat management.), S (Survey, search and find.), M (Monitoring).						
a. i*n-Situ*		-						

b. *ex–Situ*	-
i) Cultivation	3
ii) Levels of difficulty in propagation / cultivation	1 (Least difficult)
Existing cultivation	Cultivated by some farmers
Previous assessment	-

DATA SHEET – 8

Botanical name		*Litsea glutinosa* (Lour.) C. B. Robinson.							
Basionys/Synonym(s)		*Litsea sebifera* Pers. *Sebifera glutinosa* Lour.							
Family		Louraceae							
Taxonomic status		Species							
Vernacular names		Maida Lakri.							
Habit		Tree							
Habitat		Along streams, on hill slopes and in sal mixed forests							
Original global distribution		Sub tropical and tropical Asia.							
Current regional distribution		• Hoshangabad, • Mandla, • Panna, • Seoni, • Shivpuri, • Sagar, • Rewa,							
Elevation range (M)		Up to 1000							
Population reduction (pl. tick in appropriate cell)		<30%	30 to 49%	50 to 80%	>80%				
			√						
Time/Rate(Year/generation)		3 Generations.							
Extend of occurrence (EOO)		Km^2	>20,000						
Area of occurrence (AOO)		Km^2	>2,000						
No. of location /Sub-Population		13							
Data quality		2, 4							
Threads		Hm, Sf, Lf, Sd, Tp.							
Trade	Names	Maida lakri							
	Level(S)	Local	√	Regional	√	National	√	Global	√
	Part traded	Bark							
	Effect of population	Declining							
	Data quality	2, 3, 4							
Other comments		• Gum of the bark is used to make Agarbatti, • Natural regeneration of the species is almost absent. Natural regeneration is by coppicing.							
Recent field of studies		Mudgal V., K.K. Khanna & P.K. Hajra, 1977. Flora of M.P. Vol. II; B.S.I.							
Status									
- CITIES		-							
- Legislation		-							
- Criteria based on		A2cd							
- IUCN		VU							
% of global distribution		<5%							
Existing conservation measure		Further exploitation banned.							
Is the presence of taxon continuous with neighboring areas		Yes (U.P., Bihar, Orissa, Arunachal Pradesh)							
Are the outside population also under similar threads /pressure		Yes							

Recommendations	
Research / Management	S, M, Hm.
a. i*n-Situ*	Chitrakoot, Shivpuri.
b. *ex–Situ*	-
i) Cultivation	3
ii) Levels of difficulty in propagation / cultivation	3 (Very difficult).
Existing cultivation	Not in cultivation
Previous assessment	-

Awareness generation among the local people about the natural resources and their utilization

During the field survey of various sacred groves, awareness was generating in the nearby villages. Villagers participated in the awareness programme and discussed in detail about sacred groves and natural resources close to their villages. They discussed the methods of collection of NTFPs and other natural resources. Team members explained the distructive and sustainable harvesting methods of some important NTFPs and forest products like Aonla, Bel, Satavar, Baibidang, Malkangni, Kalmegh, Tikhur, Baichandi, etc. Team members also created interest among concerned villagers for growing important commercial plants in their vicinity/neighbourhood.

THREATS TO SACRED GROVES

Following threats has been observed in the study sites;

1. Encroachment

Many instances were observed where the sacred groves have been encroached by local communities as well as by people migrating from out side.

2. Removal of biomass

In many sacred groves, removal of biomass and cattle grazing is permited. Continuation of these practices over generations has resulted in the dwindling of the groves.

3. Modernization

The most recent threats to sacred groves come from the process of mordenisation. Local traditions are being challenged by the western urban culture. Morden education system fails to instill respect for local traditions. As a result, institution of sacred groves is losing its cultural importance for the younger generations of local people.

4. Sanskritisation

In many places, local folk deities continue to replace the Hindu gods and goddesses. This has resulted in the erection of temples in sacred groves.

5. Commercial forestry

Many sacred groves were destroyed under commercial forestry operations.

6. Shift in belief system

In some places, conversion to other religions has resulted in the degradation of sacred groves.

FUTURE STRATEGIES

6. Understanding local peoples knowledge of resource and their value
7. Developing and creating awareness among local people about the resource and their values.
8. Preparation of action plan for conservation, protection and augmentation of recourses.
9. During the preparation of working plans of the forest divisions sacred groves should be included.
10. Involvement of the local people in protection and augmentation.

CONCLUSION

Traditionally, human relationship with plants played an important role in conservation of flora, fauna and individual species. Expanding human population has caused increased natural resource exploitation and alteration of land use pattern. Phyto-diversity of rich sacred groves could also have strong human impact. Floristic studies carried out in 78 sacred groves in Hoshangabad district of Madhya Pradesh, clearly show that these groves are the hot spots of biological and socio-cultural diversity. The floristic composition also suggested that these were the remnants of the once flourishing forest. About 60% of the plants were medicinally and also economically important. Many rare, endemic and threatened plants are conserved in these areas. It is a clue that even climax vegetations of various altitudes and latitudes can be conserved *in-situ* in these groves. The present study revealed that it is important to do systematic enumeration of these isolated habitats. They could be used as germplasm collection of all the plants in an area. Micro-propagation and tissue culture of the fast disappearing plants of these groves are to be undertaken on priority basis for conservation.

A proper understanding of local traditional knowledge would be the field of prime importance. It can be achieved through preparation of biodiversity registers for these sacred groves.

ASSESSMENT OF STATUS AND ROLE OF SACRED GROVES IN CONSERVATION OF BIODIVERSITY AT DIFFERENT LEVELS IN MADHYA PRADESH – DISTRICT MANDLA

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2. INTRODUCTION

Sacred Groves (SG's) are ancient refugia of biodiversity in forests granted protection by faiths and believes of tribals residing around them. There are scores of sacred groves worldwide, protected by almost every tribal or ethnic population wherever they reside. In India 24 million people belong to tribal groups in various states. These tribal groups on the basis of their beliefs along with varied rules and restrictions protect a patch of forests. The resources are used for their community benefit and not for any individual profit. These forests therefore act as natural gene pool for flora and fauna, providing protection by the community itself.

At present, the importance of SG's gets more relevant when every other developmental activity in some or the other way is proving detrimental for the forest resources and their habitat. Forest thinning and cleaning, construction of roads, extraction of NWFP's, invasion of exotic species, habitat alteration *etc.* leads to the degradation of the wild areas. Although the old conservation practices based on the culture of tribals are providing protection, it is not sufficient. In the absence of any alternative methods and resources to fulfill their basic requirements of fuel, fodder and medicine, they are compelled by necessity to extract these from the SG they are supposed to protect.

Ecological degradation and deforestation is a global phenomenon today. In India these exists thousands of pockets of landscape called as 'Sacred Groves' which are being protected religiously. These groves serve as unique examples of *in-situ* genetic resource conservation. The manifestations of nature are exhibited in the form of magnificent, ancient, arboreal plants, giant climbers and rich ground flora. The sacred groves are often described as natural museums of giant living trees, treasure house of rare, endemic and endangered species, dispensary of medicinal plants, recreation centre for urban life, garden for botanists, gene bank of economic species, paradise for nature lovers and laboratory for environmentalists. It is also mentioned in the National Action Plan on bio-diversity of the Govt. of India, Ministry of Environment and Forest, New Delhi (1997) under Chapter-2 "Bio-diversity Conservation National Policy or Goals " that Sacred groves are rich heritage of India occurring in various parts of the country and sacred groves harbour ecosystems at positive level. These would be treated as special areas deserving full protection and conservation".

Sacred groves are of great economic significance. Some of the species so preserved are already known to be of considerable value for the Pharmaceutical Industry, while others could acquire importance in the future. These green patches constitute unique example of *in-situ* conservation of our genetic resources. Such areas show micro climatic conditions with their own distinct floral and faunal values. The ethnobotanical value of sacred groves is also an important factor leading to their protection by local communities. Such indigenous ecosystems managed by traditional societies are shining examples of how our natural resources can be effectively managed. Continued conservation efforts in this direction will go a longway in promoting consciousness about the strong links between nature and religion.

Sacred groves are patches of natural vegetation dedicated to local deities and protected by religious tents and cultural traditions; they may also be anthropogenic tree stands raised in honor of heroes and warriors and maintained by the local community

with religious fervor. The importance of sacred groves in conserving the local biodiversity has been acknowledged only recently, though this practice has been long back hailed by British Forester Dietrich Brandis as an example of "vernacular conservation" (Brandis and Grant,1868). Since the tropical forests have impressive species diversity contained in diverse formation types (Condit *et.al.* 1996), attention has been diverted to the sacred groves of the tropical tracts in the recent past.

In India, one of the earliest documented works on sacred groves dates back to 1897 when the first Inspector General of Forests, D. Brandis, wrote "Very little has been published regarding sacred groves in India, but they are, or rather were, very numerous. I have found them in all provinces". About 75 years later, Prof. Madhav Gadgil and Dr. Y.D.Vartak conducted pioneering floristic and ethnobotanical studies of the sacred groves of Maharashtra. They cited two examples from Pune and Kolaba district in Maharashtra, a grove of the goddess Janni at Managaon in Nelhe taluka of Pune district and the second, a grove of the goddess Kalkai at Gani in Shrivardhman taluka of Kolaba district situated in the Western Ghats. These were among the largest groves that the two had visited, being about 15 hectares each in size. The two scientists had also recorded that the finest sacred groves of India appears to be in the Surguja district of Madhya Pradesh. Here, every village has a grove of about 20 hectares, where not only plant but also animal life receives absolute protection.

A systematic survey of the sacred groves of India in 1997 has recorded the existence of thousands of such groves along the plains and hills of the Indian subcontinent and confirmed their floristic richness confined within islets of diverse habitats (Ramakrishan *e2t.al.* 1998). Their plant wealth and conservation potential were impressive enough to acknowledge them as "mini biosphere reserves" (Gadgil and Vartak 1975). However, the survey was largely limited to enumeration of plants only, neglecting quantitative analyses which are essential for evolving strategies for their conservation.

In India, as well as in parts of Asia and Africa, care and respect for nature has been influenced for centuries by religious beliefs and traditions. Till today there exists some fascinating examples of sacred groves in the country, but it is a pity that these unique examples of conservation have not attracted the attention of Scientists, Foresters and Administrators.

In India, 19 states have till date reported the presence of SG's within their boundaries. In southern and northeastern states various studies are being carried out with regard to their status, conservation values and the interaction with communities. The southern states have reported rich biodiversity values in Sacred Groves.

A sacred grove exists in several states of India and is known by different names, such as Kavu in Kerala, Sindhravana or Devarakadu in Karnataka, Deorans or Orans in Maharashtra and Rajasthan. The area under a sacred grove can vary from a few square meters to 25 hectares or more. There are repositories of biological diversity, and are protected through religious practices such as a presence of a presiding deity.

Madhya Pradesh with a large geographical area has no published account on sacred groves. The major part of the state is unexplored in terms of biodiversity. Madhya Pradesh is also unique in having large concentration of tribal people. Major tribal districts of Madhya Pradesh with interesting flora and fauna come under the unexplored

regions. Apart from this the finest sacred groves of India appears to be in the Surguja, Pachmarhi, Dindori, Ujjain, Tikamgarh and many other districts of Madhya Pradesh. Here, all the villages have a grove of about 20 hectares. Not only plant but also animal life receives absolute protection in these groves. These serve as sanctuaries for herds of ungulates as well, and are locally known as "Sarana forests", a word which probably derives from the Sanskrit "sharana" or sanctuary.

Only 10% area has been surveyed for sacred groves in our country (Jain, S.K.) Partial work has been done and listed in some areas of sacred groves in Kerala, Maharashtra, Rajasthan, and Andhra Pradesh by some workers. Madhya Pradesh, with a large geographical area has not published any account on sacred groves. The major parts of the state is unexplored in terms of bio-diversity. Madhya Pradesh is also unique in having large concentration of tribal people. Many of the major tribal districts of Madhya Pradesh with interesting flora and fauna come under the unexplored regions. It is now an accepted fact that the knowledge of the bio-diversity composition of any place is an essential pre-requistite for the study of various ecosystems. The sacred groves, survey work were initiated in Madhya Pradesh only by Prof. Madhav Gadgil in the Sarguja district of Madhya Pradesh. Further, no exploration work has been done in this field. The present project has plan for detailed survey of the sacred groves in the tribal area of Madhya Pradesh.

The groves also show the presence of rare and threatened species existing in good condition. Madhya Pradesh has 18 tribal districts with more than 65-70% population of tribals; this in itself reflects that there must be a sizeable presence of tribal conservation areas. In Madhya Pradesh, although the presence of SG's were reported way back in 1970's by Gadgil and Vartak (1974) and Gokhale *et al.,* (2001), no study was initiated to know the status and conservation values of Sacred Groves. The identification and inventorization is being done through this project for the first time. At the onset, district Mandla is taken for the inventorization of SG's.

3. OBJECTIVES

1. ***To study the status of sacred groves.***
2. ***To inventories the floral and faunal diversity.***
3. ***To study the status of endemic, rare and threatened medicinal plants in sacred grooves***
4. ***To study the traditional knowledge of natural recourses and their value***
5. ***Awareness campaign among the local people about the natural recourse and their utilization***

4. STUDY SITE

The selected district is predominantly tribal dominated district and constitutes more than 65 % of their population as tribes and possesses vast area under forests. The recorded forest areas in the the district constitute 2769 km^2 in Mandla district. The major tribal groups residing in this district are Gond, Baiga, Maria, Bhumia, Agariya, Pardhan and Panka. The Baigas are the medicine men in most of the villages, while there are few regions where pure Baiga villages are found. The other major group is Gond. The location of this district in Madhya Pradesh is shown in **Map -1.**

The district Mandla is situated in the east-central part of Madhaya Pradesh. The district lies almost entirely at the catchement of river Narmada & its tributaries. The district with the glorious history, Mandla comprises of numerous rivers and endowed with rich forests. The world's famous Tiger Sanctuary, Kanha National Park located in the district, is one of the hottest targets for both the domestic as well as foreign tourists. The extreme length of the district is about 133 Kms. from north to south and extreme breadth is 182 Kms from east to west. It covers a total area of 8771 Sq. Km. and having a total population of 894236. There are 9 blocks 4 Tehsils and 1247 villages in the district.

Various tehsils, developent blocks and important places of district is shown in **Map - 2**. The district forms part of Satpura and Maikal hill ranges. It is the watershed area of several rivers including Narmada, Halon and its tributaries. The total area of the district is 5800 km^2. Climate of the district is characterized by hot dry summer except in monsoons. The forest cover also causes cold winter in interior areas. There are 4 tehsils and 9 development blocks in the district. The population of the district as per 2001 census is is given below;

Table 1: Block and population of Mandla district

S. No.	Name of Tehsil	Name of Development Blocks	Population
1	Mandla	1. Mandla	1,29,256
		2. Mohgaon	65,702
		3. Ghughri	79,060
2	Nainpur	4. Nainpur	1,14,411
3	Bichhiya	5. Bichhiya	1,48,518
		6. Mawaii	69,320
4	Niwas	7. Niwas	62,151
		8. Narayanganj	70,882
		9. Bijadandi	63,022

Mandla district derives its name from the headquarters town, Mandla. Three traditions about the name Mandla are more or less prevalent in the area. Caption H.C.E. Ward recorded its puranic details relates Mandla to the Sanskrit word 'Mandal' meaning a circle; because the river Narmada almost girdles the town on three sides. According to another view, the real name of Mandla is said to have been 'Mahish-mandal', or 'Mahishmati' of ancient Sanskrit literature, which was the capital of Kartvirya of the thousand arms from whom where sprung the Garha-Mandla kings. Under the clear cold

light of criticism, however, the weakness of the story becomes palpable; the Mahishmati of Sanskrit legend has been proved by Dr. Fleet to be Mandhata in Nimar disrtict, whereas our Mandla is probably a survival of the word, 'Mandla' or feudatory state. The Brahmans identify it with Mahismati, which is said to have been one of the ancient seats of the Haihaya princes. The Mandla is not probably the name of a place, as it means only a district. The original name might have been Mahishmati-Mandla, of Mahes-Mandla, which has now become simply Mandla. The third view of the probable origin of the name is that the word 'Mandla' is probably a survival of the word 'Mandal' or feudatory division of the kingdom of the Kalachuri kings of Tripuri.

Mandla District consists of a rugged high tableland in the eastern part of the Satpura hills. The most important range of the Satpuras in the district is Maikal, which form a watershed between western and eastern India. It is well known in ancient Sanskrit Literature as the source of the holi Narmada. The spurs and sub-ranges of the Maikal hills divide the country in the east of the district into a number of valleys and tablelands.

According to the census report, Gonds and Baigas are most significant tribes in the district. In comparison to the other tribes, Gonds are well settled and economically better than any other communities of the area. Raja Gonds, Nagvanshi Gonds and Ravanvanshi Gonds reside mainy in this area.

THE GONDS

Earlier, Gonds were mostly forest-dwellers but at present they are settled as agriculturists and hence are also referred as Kisan (Farmer). The food habits of Gonds are uniform. Their staple food is the gruel of millet and boiled rice. Both Vegetarian and non-vegetarian foods are consumed by them. They hardly hesitate to consume any kind of meat except for the one belonging to their totemic systems. Beef-eating is generally restricted, showing their inclination towards Hinduism.

Gonds follow tribal endogamy and clan exogamy. Monogamous marriage is common among the Gonds but polygamy, is not altogether unknown. Cross-cousin marriage (both paternal and maternal) is preferred. Parallel-cousin marriage has not been observed. They follow the system of patriarchy. Remarriage and widow marriage is also permitted. Divorces are very common among Gonds.

The male Gonds wear dhoti, which is kept in position above their knees with a small shirt known as bandi. The ladies wear half-sarees which are mostly red, green or blue in colour. They wear loose blouse which is called Polka. They wear silver ornaments. Gond women are tattooed generally on the chest, fore-arms, legs, shoulders and ankles. Both men and women used to be tattooed earlier but this custom is constantly on decline among men.

The clans are usually named after some animals or plants. Among the common clans in different districts of Mandla some are Markam (Mango tree), Tekam (Teak tree), Netam (the dog), and Warkara (wild cat). From these animals and plants a clan derives its name and totems for the members of its social group. The totemic association generally has a legendary background.

The worship of ancestors is an integral part of their religion. Bura Deo, the great God, was probably the first one to worship, than the Saj tree, and later the whole collection of gods. They believe also in a number of local deities.

The tribal area is known for various diseases, gastric disorders, jaws and skin disorders, scabies and malaria. The incidence of deaths in the area due to malaria was the highest, followed by respiratory diseases, diarrhoea and dysentery. Gonds resort to the use of local herbs and medicines independently or through the medicine man, Gunia.

The Gonds have a highly developed aesthetic sense. They indulge in merry-making and pleasure seeking which is manifested in dancing and singing and in celebration of festivals like Holi and Megnath swinging rite. Megnath is said to be the son of Ravan, the demon king of Ceylon. They are highly superstitious and are always afraid of 'evil eyes' and other misfortunes like epidemics etc.

The dead person, whether male or female, is buried. He is buried with the face upward, head to the south and feet to the north, in the clothes in which he died with a new cloth spread over the body. The body is not given bath before burial.

The influence of various leaders under different situations is also observed. Gonds have a tribal council to settle local disputes of internal nature such as conjugal infidelity and other social matters while they settle the extraneous matters in the presence of Mukadama i.e. the village headman.

The impact of beliefs and attitudes, on social actions is due to industrial reliance on them. No special rites are observed during pregnancy and the superstitions about women, in this condition they resemble those of the Hindus. A pregnant woman must not go near a horse or an elephant as they think that either of these animals would be excited by her condition and would assault her.

If the child is born in this feet first, its feet are supposed to have special power, and people suffering from pain in the back come and have their backs touched by the toes of the child's left foot. This power is believed to be retained in the later life of the child too.

The diseases of children are attributed to evil spirits. The illness named sukhi in which the body and limbs grow weak and gives a dried up appearance, is very common and is probably caused by malnutrition. They attribute it to the machinations of an owl which has heard the child's name or obtained a piece of its soiled clothing. In order to cure this illness they use charms and amulets, and also let the child wallow in a pig-sty so that it may become as fat as pig.

If a Gond, when starting on a journey in the morning, meets a tiger, cat or hare or a four horned deer, he returns and postpones his journey, but if he meets one of these animals when he is well on the way it is considered to be lucky. Rain occurs in a wedding on some other festival it is thought to be an unlucky one as it is believed to be someone's cry.

When there is drought two boys put a pestle across their shoulders, tie a living frog to it with a rag, and go from house to house accompanied by other boys and girls

singing “Mendak Bhai Pani De". The frog is considered to be able to produce rain because it lives in water and therefore has control over all its elements.

People all over the world have certain occasions on which they have joyful celebrations including the organisation of feasts, music, concerts, and plays. These folk-lores and festivals help in removing boredom occurring from the monotony of the routine work. Festivals with the development in field of culture have been surrounded by ritual observances.

FOLK LORES

Folk dance, folk songs and folk music play vital role in the cultural life of Gonds. It is through music and dance that they keep themselves occupied in the evenings. Folk music and dance give expression to their innermost feelings, their joys and sorrows, their natural affections and ideals, their appreciation of beauty towards nature and war.

Every season and every socio-religious ceremony has specific songs. On the occasions of their important religious festivals and marriages, they are fond of dancing and singing the whole day and night. Both the male and female take active part in singing and dancing.

Folk dances of Gonds are popularly called as 'Karma'. 'Karma' is the name of the plant commonly grown in the area. Before the beginning of the ceremonial dance a stem of the plant called 'Karam Kalla' is buried in the ground and the dancing troupe dance around this plant. Another interpretation of 'Karma' given by the local inhabitants, refer to the symbolic meaning attached to 'Kar' which means hand and 'ma' means to me. Thus, the literal meaning of Karma is to "give your hand to me and dance with me", as the movements in the dance involve holding the hands of the partner. This interpretation of Karma appears to be quite logical.

FESTIVALS

The festivals of Gonds are not so much associated with religion as compare with most the Hindu festivals. Their festivals are in response to the harvest season and local customs. Due to their frequent contact with Hindu population, their folk-ways are now becoming apparently tinged with the colour of Hinduism. Gonds observe many Hindu festivals without understanding their religious significance. Most celebrations consist of offerings to gods, feasts drinking and dancing. On the whole, their festivals tend to be recreational rather than spiritual. Their festivals are also connected with agricultural cycle. Their enthusiasm and zeal depends upon the success of harvest. Festivals are the only occasions in which Gonds ever indulge in any extravagance, otherwise they believe only in securing two square meals. Throughout the year a number of fairs, festivals and feasts are organised in the village. However, their distribution over a year is rather irregular.

Hareli

Hareli is the festival of rain. It is observed in the early period of rains. The goddess of crop 'Kutki Dai' is worshipped on this occasion to ensure better harvest. This

is mostly in the month of July-August. 'Hareli' word is probably derived from Hindi word, 'Haryali' which means greenery as in this season vegetation begins to bloom and there is greenery all around.

Khyania

In the month of August seven days before 'Rakhi'. Gonds sow the wheat grains in the Tukania (Basket). On the next day of Rakhi, i.e. after 8 days they cut the wheat crop from the basket. They exchange this with one another. Some of it is also immersed in the water of Narmada River on the same day. Gonds estimate the success or failure of crop of coming season by this festival.

Rakhi

On the day of Rakhi Gond women tie the string around the wrist of their brothers and cousins with a pray for their safety, security and protection, in the similar way the Hindu celebrates the festival.

Dashera

This festival is celebrated in the month of October and is quite an important festival among the tribals of the villages. But like the Hindu festival, it is not associated with any Hindu rites or religious beliefs. Its importance is mainly due to the agricultural ceremony attached to it. During this month the spells of rain ends and active agricultural season sets in the villages. Parties exchange visits and dance performances are organized on reciprocal basis. In the hope of getting good crop, Gonds indulge in heavy drinking, throw feasts. Saila and Reena dances are the common features of the festivals.

Mela Madai

It is held after the complete harvesting of the paddy crop, when the people are free from their agricultural work and their stores are filled with grain. After Diwali this fair is enjoyed daily for a week. The head of the village inaugurate the Mela. People light up oil lamps in their houses. They dance and sing, day and night. This celebration is made in the happiness of the success of their harvest. Sweet dished and special food items are prepared in the Gond houses on this occasion.

Chait Gal

This festival starts from 'sharad purnima' after Dashera (October) and continues up to the 'Kartic Purnima' of Diwali (November). Gonds stand in the open ground along with a wooden pole smeared with grease. On the top of the pole is tied a cloth in which a coconut, some currency and sweets are wrapped. Skilled and courageous unmarried boys try to climb on the pole to get the things tied on the top of the pole. Unmarried girls and other villagers make efforts, that the person does not succeed in climbing up and reach the things tied at the end of the pole. The moment an ambitious youth starts climbing the pole the girls around the pole starts beating him with the sticks, when he gets down with the things, his friends grab him and run away. On the last day in the midnight of 'Kartik Purnima' the unmarried boys take bath in the nullah.

Nawa Feast

During this festival, Gond people pay thanks to the harvest and celebrate the moment. New harvested rice is offered to 'Bara Dev' under a Saja Tree for the first time new rice is cooked in the house, by the head of the family who has to keep fast on that particular day. On this occasion women folk do not cook the rice.

Bidri Ceremony

It starts before the beginning of the sowing of summer crops. It is celebrate to ensure better crop. The preist (Gunia) collects some of the seeds of Kodo, Kutki and other summer grains. He mixes the grains together and sows a little under the tree where 'Thakur Dev' lives. He returns little to each cultivator or sows in the center of the land on which crops has to be grown or mixes it with the whole lot of seed grains to be sown. A feast is given to all those who took part in the Bidri ceremony.

Shankar Chauth

It is celebrated in the months of January and February. Bara Dev festival and Mag Panchami festival are celebrated in July and August respectively.

Holi

It is a spring festival. In the month of March, Holi is celebrated. It is a five day festival. A Gond will never miss the opportunity of drinking alcohol during Holi. On the first day of Holi festival they play with 'Kechar' (wet muddy soil); on the second day, with ‘Gobar’ (cow dung) and on the other days with colours. Holi Mela is also held during these days. It is merely a social recreation for Gonds which they have adopted from the local Hindu people.

Mandla district is located in the east-central part of the Madhya Pradesh. It is an eastern part of the Jabalpur district. The district forms a part of Satpura hills, which separates the cotton growing of the south from the wheat growing extension of the Malwa Plateau on the north, and is the watershed of three district river systems. It lies between the latitude 22º 12' and 23º 12' north and longitude 80º 18' and 81º 51' east on 887 MSL. The tropic of cancer thus passes through the north of the district. The total area of the district is 13,269 Sq. Km. Thus, before bifurcation Madhya Pradesh was the 6th largest district in the state. Its extreme length is about 133 km. from north to south and extreme breadth 182 Km. from east to west. The total population of the district was 8, 93, 908 (154 density per sq. km.) as per census of 2001. Highly irregular in shape, it is not possible to describe it by comparison with any geometrical figure. However, if one looks at the map of the district, it would tend to assume a scorpion like appearance. The district is bounded on the north-west by Jabalpur district; on the north and north-east by Shahdol district; on the south-east by Bilaspur-Rajnandgaon district; on the south by Durg and Balaghat district and on the west by Seoni district.

Geology

The main rock formation is Gondwana covered by Deccan Trap. Rock formation is from cretaceous to Eocene. Basalt is made up of different layers of lava. In between it is intertrappean and black in colour and clay ash has immature limestone. Deccan trap, lameta bed, Archean granite and dharwars are also found. On the rivers and nalas bank black cotton soil is made up of dharwars, lameta and Archean and forms deep fertile soil.

Strati-graphically, Mandla district mainly comprises Archaeans, Lametas, Deccan Trap and Recent formation. The older metamorphic of the district include granite, granite gneiss's, hornblende Schist, quartz mica schist, lime-silicate rocks, Pegmatite and Charnockite. The Dharwarian rocks of the district are represented by Chilpi Ghat group, which comprises phyllite, dolomites, quartzite, pegmatite, mica schist and quartz. Arenanceous limestone of Laetite, rest horizontally on the denuded surface of schist deacon trap is the most extensively developed formation of the district. Basaltic lava flows of different thickness are at places separated by inter trepans of clay and limestone. At many places, traps are covered by laterite in which segregation of alumina has resulted in bauxite deposit. Sometimes decomposition of traps gives, block cotton soil, the 'regur'.

Soil

Soil of Mandla is generally classified into four classes, Kabar or Kanbar, Morand or Mund, Sahra and Barra but as differences in value within these classes were also recognized each was sub-divided into two and described as follows;

a. Kabar / Kanbar

It is a “bluish – black”, clay of extreme depth and fertility soft and sticky when wet very hard and heavy when dry. It is free from sand and sand and stone and breaks with a smooth surface. Locally it is known as gobra, badi kanbar, asli kanbar and Kichua Kabar. It is an inferior quality of the preceeding gritty, lighter in colour, less in depth and often containing small black kanbar pebbles. It is locally known as gobra, non kanbar, choti or halki kanbar, dudh sahra and mut sahra or mota sahra.

b. Mund / Morand

(a) Mund I - This type of soil is the third of the four classes of black cotton soil, black or darkish, more gritty and friable than kabar and breaking into small clods with a roughish surface. It frequently contains more or less white limestone pebbles of fair size. It is locally known as mund, morand, sahra, kaitha and occasionally mutsahra.

(b) Mund II - It is an inferior Varity of the proceeding lighter in colour and outturn, sandy and often containing large quantities of white limestone which materially reduces its productivity. It is locally known as morandi, sahri or sometia.

c. Sahra

(i) Khisa sahra: This type is pure sand, pale yellow, friable and easily worked, unfit for Rabi or spring crops, but given good rains the rice soil par excellence; in low – lying or irrigated positions and with proper manuring it gives extraordinarily good outturns.

(ii) Kaitha sahra: Locally known as domatia, is a very sandy variety of mund suited only to lighter rabi, but a fairly good rice soil. This class of soil is locally known as jhigra sahra or jhigra.

d. Barra

(i) Mutbarra: It is not a specific soil but a comprehensive tern applied to the best qualities of red or yellow soil, free from stone, capable only of kharif crops.

(ii) Barra: It is a similarly all embracing term including all the poorest soils incapable of rabi or rice. True barra is a red gravelly or murram soil, often extra – ordinarily stony or with rock, underlying it within twelve and eightenn inches. Kachar is the rich yellow flaky deposit left after the rains on the banks of the Nerbudha (Narmada) and Banjar rivers. The soil classes enumerated above are distributed into four "kind" classes according to the crop which is normally grown upon them. The "kind" classes are gobhari or wheat land, dhanai or rice land, mutfarikat or minor cropped land, and fourthly, garden land. The approximate area of godari land is 121,000 acres of dhanai 53,000 acres, of mutfarikat 386,000 acres and, of garland 19000 acres (Rudman 1912)

Climate

Mandla District extends over the highest plateaus of the Stapura ranging grow 500 meters to 500 meters above mean sea level. In comparison with the low-lying plains of Jabalpur and Raipur to the north and south it is cool and exhilarating. The climate of this district is characterized by hot summer season and moderate monsoon season except for the general dryness in the southwest part. The year may be divided into four seasons. Winter is from December to February, followed by the summer from March to mid of June. The period from mid-June to September is the southwest monsoon season. October and November constitute the post monsoon or retreating monsoon season.

Temperature

This is observed meteorologically in the district of Mandla and the records of this observation may be taken as a fair representation of the conditions prevailing in the district. There is a steady increase in temperature after February. May is the hottest month with the mean daily maximum temperature of 41.3^0C and the mean daily minimum of 24^0C. During the summer season the day temperature may rise up to 44^0C. The highest maximum temperature recorded in Mandla was 45^0C on May 22 1954. The lowest minimum temperature recored was 0.6^0 C on January 25 1954.

Forest Type

According to Champion & Seth the forest area has been classified as follows;

- **Moist Peninsular Sal Forest (3C / C2e)**
- **South Indian Sub Tropical Moist Deciduous Forest (3B)**
- **Southern Dry Mixed Deciduous Forest (3C / C3)**
- **Southern Tropical Dry Deciduous Forest (5A)**

Practically all the well-watered valleys of the south and especially in the Banjar and Motinala forests Sal ***(Shorea robusta)*** grows in rich profusion, unmixed with any other species, in the reserve forest. It possesses an inexhaustible reproductive power. The seeds are shed in millions, and the seedlings, shooting rapidly above the danger zone of Jungle fires, grows straight and tall, before it begins to spread abroad its branches.

In the eastern parts of the district, sloping up to Amarkantak, where the vindhyas and Satpuras meet, a hybrid Sal Jungle is found. However, the sal is of poor quality, and rarely reaches a girth of more then three or four feet. Moreover, it has lost its monopoly in the forests and no longer grows in solitary state, but is surrounded by all the other Mandla species.

This type (common to all parts of the Central provinces) is found more particularly in the northern, central and western parts of Mandla provided the soil is suitable, any kind of tree may be found in a mixed forest, but the most important in Mandla are the Teak ***(Tectona grandis L.),*** Sal ***(Shorea robusta),*** Saj ***(Terminalia tomentosa W. & A.),*** Bija ***(Pterocarpus marsupium Roxb.),*** Lendia ***(Lagerstroemia parviflora L.),*** Mohwa ***(Madhuka indica Roxb.),*** Achar ***(Buchannia lanzan Roxb.),*** Khair ***(Acacia catechu Willd.)***, Tendu ***(Diospyros melanoxylon Roxb.)***, Harra ***(Terminalia chebula Retz.)*** and Dhawa ***(Anogeissus latifolia Bedd.).***

Mandla has Teak forest too which is one of the best qualities available in the state. Due to gregarious flowering in Bamboos, the forest is destroyed and it is found only in the area e where it has been protected. According to recent forest resource assessments are made by the forest department, the composition of forest areas with reference to their density of different crop wise is as follows;

Table 2: Forest area of Mandla district

Density	Forest - Crop wise	Area (%)
Dense	Teak	16.42
	Sal	23.04
	Miscellaneous Species	16.79
		56.25
Under Stocked	Teak	0.25
	Sal	0.21
	Miscellaneous Species	20.86
		21.32
Open Forest & Other Areas		**13.31**

The main tribes are Gond, Baiga, Pradhan and Kol. The Gond is numerically the most predominant scheduled tribe in the district but Baiga's population stands second, whereas pradhan and kol stands on 3rd & 4th position respectively. Other tribes like Agariya, Andh, Bhaina, Bharia, Bhumia, Paliha, Pando, Pathari and Saroti are in less percentage.

5. METHODOLOGY

To initiate the project, the important tribal localities, pilgrim places and other biodiversity rich areas of Mandla has been identified with the help of field survey. Status survey and identification of sacred groves had made during first preliminary survey. The information related to location, climatic condition, physiographic features and importance of the area are collected and inventory of floral and faunal species were also prepared based on seasonal survey.

To assess the diversity of medicinal plants, seasonal periodical survey has been done in the sacred groves. Phyto-sociological studies and vegetation analysis were carried out through quadrate method. Diversity index and index dominance have been studied through Shannon & Simpson index. Status of rare and endangered medicinal plants is prepared and its degree was assessed. UNESCO model were consulted to work out the status of endangered species. IUCN red list category for evaluating the status of medicinal plants was followed as per literature.

Socio religious importance has ascertained with the help of local tribals. During the important festivals, important melas and other religious gatherings, the area were surveyed to find out the relationship of tribal people and the sacred groves. Cultural relationship is also studied to know the importance of sacred groves. Rare, endangered and threatened species were identified with the help of seasonal bio-diversity studies of the area. Wild species, plant genetic varieties of economic importance are also collected for future research.

5.1 FLORISTIC

An inventory has been prepared of collected plant specimens following simultaneously the identification of plant specimens. All the collected and inventered specimen were identified with the help Flora of Tamil Nadu" (Nair & Henry, 1983, Henry *et al.* 1987 & 1989), Flora of Bhopal (Oommachan, 1977), Flora of Jabalpur (Oommachan & Shrivastava, 1996). Name changes were confirmed from recent literature (Bennett, 1996) and finally the specimens were arranged in their respective families following the Bentham and Hooker's system of classification (1862-1883).

A list of all species found in the all sacred groves from Mandla district was prepared and arranged family wise, species wises along with specifying the rare and endangered species. According to particular habit the collected plant species were also categorized as large trees, medium trees, small trees, shrubs, climbers, parasites, epiphytes, grasses and herbs. Some economically important medicinal plants were collected in the vital form of whole plants, rhizomes, corms, bulbs and seeds for the ex-situ conservation.

5.2 ETHNOBOTANY

Initially important localities and diversity rich areas of wild medicinal plants were identified and demarcated, with the help of field survey. For Ethno-botanical studies the participation and involvement of tribal and local inhabitants were given prime importance. Potential habitats of important medicinal plants were identified. Moreover

potential threats to important habitats having high diversity of medicinal plants were listed and its degree assessed. Various collection and marketing methods of minor forest produce (MFPs) were observed in this area, these were helpful in synthesizing information about current harvesting practices of medicinal plants both in the form of data and photographic record. During seasonal sample collection ethno-botanical information was gathered from knowledge bearing persons of medicinal plants, which includes some tribal and local people. Thereafter field notes were entered in the field diary and each specimen was given a specific collection number.

Herbarium of collected plants specimen was prepared following the guidelines of Jain & Rao (1984). Simultaneously the identification of plant specimens was carried out. The specimen were identified with the help Flora of Tamil Nadu", Nair & Henry (1983), Henry *et al*. (1987); Henry *et al*. (1989) of Flora of Bhopal", Oommachand (1977), Flora of Jabalpur", Oommachan & Shrivastava (1996). Use of relevant keys, description and illustration if any was done to determine the family, genera and species. Name changes were confirmed from recent literature (Bennett, 1996) and finally the specimens were arranged in their respective families following the Bentham and Hooker's system of classification (1862-1883).

A list of all species found in the area was prepared specifying the rare and endangered species. According to particular habit the collected plant species were also categorized as large trees, medium trees, shrubs, climbers, parasites, epiphytes, grasses and herbs. Some economically important medicinal plants were collected in the vital form of whole plants, rhizomes, corms, bulbs and seeds for the exsitu conservation. These plants and plant vital parts were kept in the medicinal plant gene bank of State Forest Research Institute (SFRI) Jabalpur for further future research and reference. During the course of survey about 140 plant species samples were collected and their status was measured using various phytosociological methods as given by Mishra (1968). A list of all species found in the areas was prepared keeping in the view the IUCN list of endangered and rare species. For the species coming under these categories important information related to location, climatic conditions, and physiographic features of the area were collected.

5.3 PHYTO-SOCIOLOGY

The Phytosociological studies of medicinal plants were done by following standard ecological methods of Mishra (1968) and Smith (1980) by laying quadrates in different localities of the sacred groves. Selection of sites for samplings was done by random sampling procedure quadrtes of 40 x 40m size were laid down in various potential areas of sacred groves following Nautial *et al.* (1987). This was done to get maximum representation of different potential areas. The girth at breast height (gbh.) of all trees above 20 cm gbh in each 40 x 40m size quadrat was measured and recorded species wise following Parthasarthi & Karthikeyan (1997). 2 quadrates each of size 10 x 10 m were laid under the 40 x 40m size quadrates for sampling of shrub species, while 3 quadrates each of size 1 x 1m were also laid under the 10 x 10m size quadrates for ground flora enumeration.

The IVI of the important species were calculated by summation of frequency, density and abundance. The various formulas used in the study are:

$$\text{Density} = \frac{\text{No. of individuals per species}}{\text{Area of hac. Plot}}$$

$$\text{Relative Density} = \frac{\text{Density of a species}}{\text{Density of all species}} \times 100$$

$$\text{Frequency} = \frac{\text{No. of plots in which species occur}}{\text{Total No. of plots}}$$

$$\text{Relative frequency} = \frac{\text{Frequency of a species}}{\text{Frequency of all species}} \times 100$$

$$\text{Dominance} = \frac{\text{Area of Canopy covering / Basal area of a sp.}}{\text{Area of sample plot}}$$

*The **canopy** of an individual tree refers to the extent of the outer layer of trees leaves. Shade trees normally have a dense canopy blocking out the light from lower growing plants. The Leaf Area Index can be used to measure the density of the canopy.*

***Basal area** is the term used in forest management that defines the area of a given section of land that is occupied by the cross-section of tree trunks and stems at their base.*

$$\text{Relative dominance} = \frac{\text{Dominance of a species}}{\text{Dominance of all species}} \times 100$$

$$\text{IVI} = \text{Relative density} + \text{Relative frequency} + \text{Relative dominance}$$

$$\text{Diversity Index H Shannon Wiener Index} = -\Sigma \left(\frac{ni}{N}\right) \log \left(\frac{ni}{N}\right)$$

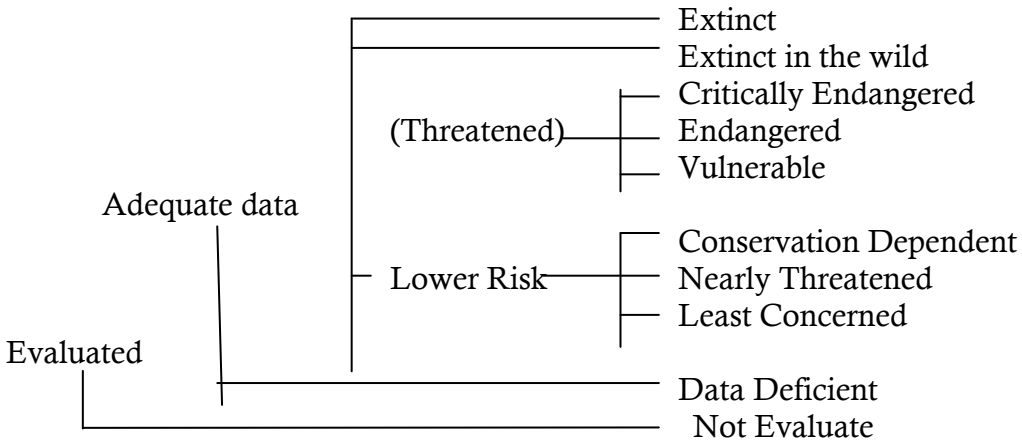
Where H = Shannon Index
ni = Number of Species
N = Total number of individuals
Log implies to log base 10.

INVENTORY OF RARE AND ENDANGERED MEDICINAL PLANTS

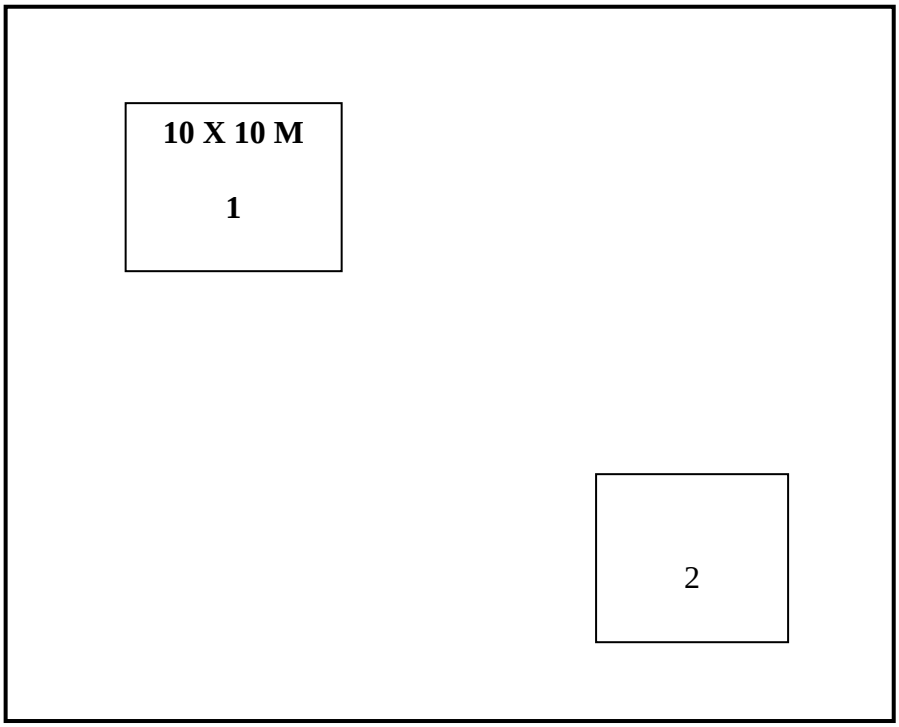
Inventory of rare and endangered medicinal plants have been prepared based on seasonal survey and available field information. Potential threats to each habitat having high diversity in medicinal and aromatic plants are listed and its degree was assessed. UNESCO model are consulted to work out status of the endangered species. IUCN Red

list categories for evaluating the status of medicinal plants have been followed as per given below:

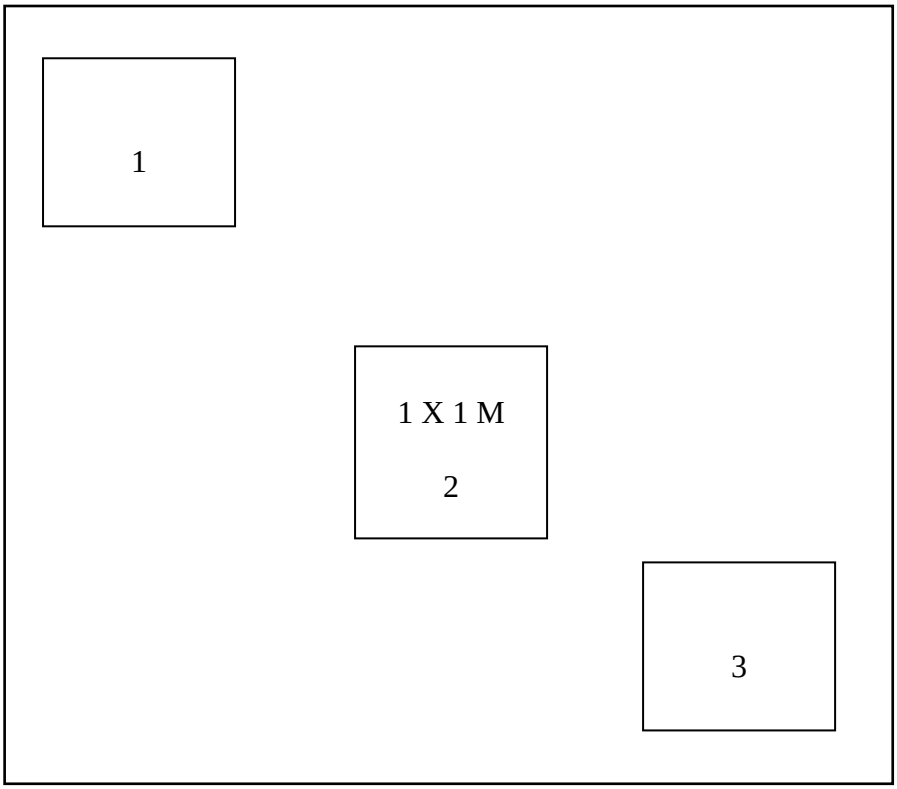
IUCN RED LIST CATEGORIES



PATTER OF LAY OUT QUADRET



Size of Quadret: 40 x 40 m



Size of Quadret: 10 x 10 m

6. OBSERVATIONS AND DISCUSSION

6.1 STATUS OF SACRED GROVES

A total of 30 sacred groves in district Mandla have been identified (**Table 4)**. They were identified on the basis of the beliefs of the tribals in these places as well as their faith in the deity they identify at this place. At least 50% of these places are still in very good condition and can provide a very good *in situ* conservation site for threatened species as well as habitat. One of the most important feature found at Sacred Groves almost these areas have a perennial water source within the very premises of worship while at other places the water body is present every near to them. The other important aspect is the presence of some threatened species especially trees.

Table – 4: Details of Sacred Groves found in Mandla District

S. No.	Name of SG	Name of Block / Tehsil	Name of nearest village	Size of the SG (in sq.m)	Major Plant associate	Deity involved
1.	Babapat	Anjania	Bagrodi	10	Bhilwa, Saja, Ber, Dhawa	Siddha baba
2.	Baiga baba	Nainpur	Paili	50	Ixora, Aonla, Char, Malkangni, Mahua	Bhole baba
3.	Bakramundi	Bichhia	Mawai	50	Sal	Banjari mata
4.	Sidhababa	Bichhia	Bhatiatola	50	Bargad, Neem	Banjari mata
5.	Ratnahipat	Bichhia	Bichhia	50	Teak, Ber, Dhawra, Ghont, Tendu	Sidhababa
6.	Banjari mata	Bichhia	Mawai	50	Sal, Saja, Tendu, Aonla	Banjari mata
7.	Sidhababa	Bichhia	Dungariya	100	Aam, Saj, Amaltas, Sidoori, Tendu	Sidhababa
8.	Banjari mata	Mandla	Aherwada	50	Kusum, Aonla, Dhawa, Saja	Banjari mata
9.	Banjari mata	Mandla	Mohania patpara	50	Aam, Saj, Amaltas, Sissoo	Banjari mata
10.	Barhapat	Nainpur	Dhanora, comp.93	100	Neem,Teak, Kusum, Dhawa,	Siddha baba
11.	Behar	Bichhia	Medatal	50	Saja, Palas, Keked, Neem, Chirol	Baba deo
12.	Belpat	Anjania	Anjania	50	Teak,Tendu, Saj	Banjari mata
13.	Chitrahi Pat	Nainpur	Ataria	500	Bel, Aonla, Mahua, Kala siris, Saja	Bada Maharaj

14.	Devi madiya	Nainpur	Chaugan	10	Bad	Banjari mata, Dhuni baba
15	Sidhababa	Bichhia	Bargi	100	Teak, Saja, Dhawa, Lendia, Char, Chind	Sidhbaba
16	Hanuman tekri	Bichhia	Sijhora	100	Am, Neem	Mahavir
17	Jagdambani ashram	Mandla	Devgaon	50	Am, Neem, Bargad	Various deity
18	Jhijham ashram	Bichhia	Rajo karanjia	100	Pakhri, Bad, Katjamun, Aonla, Umar, Palas	All deities
19	Jungwani baba	Nainpur	Nainpur	50	Beeja, Koha, Bel, Katjamun, Tendu	Shivji, Nagdevta
20	Kamdhenu	Mandla	Mohgaon	100 on slope	Pakhri, Bad, Arjun, Palas, Umar, Aonla, Katjamun	Hanuman, Kamdhenu, Bade baba
21	Khairati	Bichhia	Lohta	500 in radius	Bel, Dhawai, Grewia, Ulatkambal	Bada deo
22	Kurlupat	Nainpur	Imaliatola	10	Harra, Kosum, Beeja, Bel, Khair,	Vandevi
23	Mudiya pat	Bichhia	Amwar	50	Sal, Saja, Tendu	Banjari mata
24	Navnadar	Bamhani banjar	Jarga	100	Dikamali, Mundi, Hadua, Bandar - laddoo, Semal	Siddha baba
25	Chakkaiyapat	Mandla	Kamta, Indri	30	Peepal,Saj	Shankarji
26	Shivji ka mandir	Mandla	Devgaon	50	Bad, Bel, Peepal, Neem	Shivji
27	Sidha baba	Mandla	Podilinga	100 on slope	Dhawa, Beeja, Lendia, Peepal, Garari	Narmada maiya, Babadev, Shardadevi Narmada
28	Sitaraptan	Mandla	Sitaraptan	100	Neem, Bargad	Badebaba
29	Surajkund	Bichhia	Bilgaon	100 in radius	Sal, Saja, Ashok, Aam, Mahua	Siddhapat, Chousat h yogini
30	Upka	Mohgaon	Chabi	100	Neem, Pipal	Budi mata

The identified groves were of various size groups, i.e. $10m^2$, $10\text{-}50m^2$, $50m^2$, $50\text{-}100m^2$, more than $100m^2$. They were devoted to different deities such as Banjari mata, Budi mata, Thakur deo, Bada Deo, Mahadev, Narmada maiya *etc.*, From the names of the deity

we can understand that they revere all natural gods. Banjari mata is the protector of forests. They worship river Narmada as a goddess Narmada maiya, while Bada deo is none other than Mahadev or Lord Shiv. All their beliefs are related with their interaction, dependence and reverence for the nature and its produce. The fundamental principle behind the concept is seen very much in place in this part of the state.

Figure - 1 shows the occation of worship in the sacred groves. The analysis of data reveals that 13 sacred groves are worshiped during every ferstival. Whereas 8 each sacred groves are specifically worshiped during the Navratri and Sankranti. 1 sacred grove is worshiped more than 2 times in a year i.e. Ramnavmi and Navratri.

The existence of 28 (93%) sacred groves are more than 50 years old. 1 sacred groves each are from 30 years old and 25 years old, it means that most of the sacred groves in natural forested areas are exist since 2 to 5 decds (Figure – 2).

Average distance of all sacred groves is not more than 4 kms. From near by village. During the analysis of data it has been analysed that 14 sacred groves are identified under distance of 2 kms. From the near by village. 11 sacred groves are found upto 3 kms.3, up to 1.5 kms. And 2 are up to 4 kms far from the village (Figure – 3). The detail profiles of all the sacred groves are given as follows;

DISTRICT MANDLA

Sacred Grove -1

Name of Sacred Grove	Babapat
Area	10 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Anjania
Near by Village	Bagrodi
Population	600
Water bodies	Nill
Tribe composition	Ahir, Kastkar
Location of Sacred Grove	On forest road
Near by village	3Km
Distance from District HQ	8Km
Year of existence	More than 50 years
Tradition (Manyata)	People stops to pay regard and offer any thing
Name of Deity	Sidhababa
Other Deity if any	Nill
Name of Guniya / Priest	N.A
Type of Sacred Groove	Collective
Patron/Assistant	Collective
Kind of Offerings	Nariyal, Supari, Agarbatti, Ata ka prasad
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey
Day of Worship	Daily
Time of Worship	Navarati
On the Festival	Navratari
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
Plants and its associates	Bhilwa, Sagon, Dhawa, Saja, Tendu, Ber, Char, Agave, Dioscorea, Dhawa, Dudhi, Malkangani, Mahua, Ber, Teak, Bhilma, Lendia, Palas, Aam, Achyranthes

Sacred Grove - 2

Name of Sacred Grove	Baigababa
Area	50 m^2
District	Mandla
Tehsil	Nainpur
Forest Range	Nainpur
Near by Village	Paili
Population	500-600
Water bodies	Bhimnala
Tribe composition	Pradhan ,Khatia, from Bihar
Location of Sacred Grove	Near pali Nainpur
Distance from District Head Quarter	6Km
Near by village	2Km
Year of existence	More than 50 years
Tradition (Manyata)	Wish are true whose cattle are lost
Name of Deity	Bhola baba
Other Deity if any	Nill
Name of Guniya / Priest	N.A.
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Chamita, Trishul
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey
Day of Worship	Daily
Time of Worship	Shivarati
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navaratri, Kumar
Plants and its associates	Ixora, Anola, Char, Tendu, Bans, Dhawa, Dudhi, Malkangani, Mahua, Ber, Teak, Bhilma, Lendia, Palas, Aam Randia, Achyranthes, Ghont, Mahul, Kosum, Bador, Dikamali, Siharu, Amalthas.

Sacred Grove - 3

Name of Sacred Grove	Bakaramundi
Area	50 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Bichhia
Near by Village	Mawai
Population	500-600
Water bodies	Kanharnala
Tribe composition	Lohar, Gond, Pankha, Beiga
Location of Sacred Grove	Near pali Nainpur
Distance from District Head Quarter	6Km
Near by village	3Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Banjarimata
Other Deity if any	Nill
Name of Guniya / Priest	N.A.
Type of Sacred Groove:	Collective
Patron Assistant	Collective
Kind of Offerings	Nariyal, Supari,Agarbatti, Ata ka prasad
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Friday,Thrusday
Day of Worship	Daily
Time of Worship	Navarati
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navaratri
Plants and its associates	Sal, Salhein, Pipal, Ber, Jamun, Nimbu, Ganja, Mahua, Tendu, Saja, Semal,Gulbans, Chirchara, Kalihaldi, Rasadaal,Gulbakawali, Morepankhi, Jungali mint, Mandookparni, Pipal, Mahaneem Junglibhata, Anti

Sacred Grove - 4

Name of Sacred Grove	Sidhababa Bamhani
Area	50 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Bamanhi Banjar
Near by Village	Bhatiatola
Population	400
Water bodies	Nill
Tribe composition	Lohar, Gond, Pankha, Beiga
Location of Sacred Grove	Compartment no755
Distance from District Head Quarter	3Km
Near by village	1.5Km
Year of existence	More than 50 years
Tradition (Manyata)	Peace and all need are fulfilled
Name of Deity	Sidha baba
Other Deity if any	Nill
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal, Supari, Agarbatti, Ata ka prasad
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey
Day of Worship	Daily
Time of Worship	Navaratri
Rules followed for conservation of sanctity and biodiversity	Enter only monday.
On the Festival	Navarati
Plants and its associates	Khair, Neeem, Lyptis, Kaner, Bhihi, Asoca, Saja, Mahua, Pipal,

Sacred Grove - 5

Name of Sacred Grove	Ratanihi pat
Area	50 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Bahamani
Near by Village	Rata
Population	100
Water bodies	Nala
Tribe composition	Dhobi, Ahir, Kol, Agaria, Chamar, Thakur
Location of Sacred Grove	2km from Rata village
Distance from District Head Quarter	5Km
Near by village	3Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Sidha baba
Other Deity if any	Nill
Name of Guniya / Priest	Shrilal
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal ,Chana, Chirongi, Agarbatti
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey
Day of Worship	Daily
Time of Worship	Shivratri
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Shivratri
Plants and its associates	Dhawa, Beeja Lendia, Peepal, Garari, Teak, Tendu, Neem, Char, Sithaphal, Bel, Nirgundi, Buatea, Aam, Dhawai, Ghari, Laksman buti, Jatropha.

Sacred Grove - 6

Name of Sacred Grove	Banjarimata
Area	50 m^2
District	Mandla
Tehsil	Bichhia
Forest Range	Mawai
Near by Village	Mawai
Population	500
Water bodies	Nill
Tribe composition	Gond, Lohar, Beiga
Location of Sacred Grove	Near Mawai
Distance from District Head Quarter	8Km
Near by village	3Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Banjarimata
Other Deity if any	Nill
Name of Guniya / Priest	N.A
Type of Sacred Groove:	Collective
Patron Assistant	Collective
Kind of Offerings	Nariyal, Supari, Agarbatti, Ata ka prasad
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Friday
Day of Worship	Daily
Time of Worship	Navarati
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navaratri
Plants and its associates	Sal, Tendu, Khassi, Saja, Sarai, Jam, Ber, Pakari, Sure, Kosum, Padpadi,Gulkawli, Janglihaldi, Fern, Sinduri, Keoti, Bootkand, kalimusali, Safedmusali, Elephantophus, Commelalina.

Sacred Grove -7

Name of Sacred Grove	Sidhababa
Area	100 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Bhamani
Near by Village	Dungariya
Population	400-600
Water bodies	Nala
Tribe composition	Dhobi, Ahir, Kol, Agaria, Chamar
Location of Sacred Grove	Compartment no 769
Distance from District Head Quarter	4Km
Near by village	3Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Sidha baba
Other Deity if any	Nill
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Flower, Langoot, Agarbatti, Nariyal
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey
Day of Worship	Daily
Time of Worship	Sakaranti
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Til Sakaranti
Plants and its associates	Sindori, Saja, Beeja, Anola, Landia, Kastori, Bans, Jaimangal, Girchi, Bhirra.

Sacred Grove -8

Name of Sacred Grove	Banjarimata
Area	50 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Aherwada
Near by Village	Babeha
Population	200
Water bodies	Nill
Tribe composition	Dohbi, Ahir, Agaria, Chamar
Location of Sacred Grove	Babeha bridge / Sidhababa
Distance from District Head Quarter	4Km
Near by village	2Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Banjarimata
Other Deity if any	Sidhababa
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal , Supari, Agarbatti, Ata ka prasad
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Friday
Day of Worship	Daily
Time of Worship	Navarati
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navaratri
Plants and its associates	Koshum, Anola , Dhawa, Pipal, Ber, Jamun, Nimbu, Ganja, Mahua, Tendu, Saja, Semal,Gulbans, Chirchara, Kalihaldi, Rasadaal,Gulbakawali, Morepankhi, Jungali mint, Mandookparni, Pipal, Mahaneem, Junglibhata, Anti

Sacred Grove - 9

Name of Sacred Grove	Banjarimata
Area	50 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Mandla
Near by Village	Mohania patpara
Population	600
Water bodies	Namaradaji
Tribe composition	Dhobi, Ahir, Pradhan
Location of Sacred Grove	Mandla Chabi main road
Distance from District Head Quarter	7Km
Near by village	2Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Banjarimata
Other Deity if any	Baba
Name of Guniya / Priest	Nill
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Only flower & Fruit
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Friday
Day of Worship	Daily
Time of Worship	All festival
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navaratri
Plants and its associates	Ama, Bans, Teak, Sisoo, Saja, lendia, Mahua,Teak, Bhilma, Lendia, Palas, Aam, Randia, Achyranthes, Ghont, Mahul, Kosum, Bador, Dikamali, Siharu, Amalthas.

Sacred Grove - 10

Name of Sacred Grove	Barahapat
Area	100 m^2
District	Mandla
Tehsil	Nainpur
Forest Range	Danora beat
Near by Village	Lalbarra
Population	600
Water bodies	Bhamni river
Tribe composition	Gond, Yadav, Kasera
Location of Sacred Grove	Compartment no. 93 Teak plantations
Distance from District Head Quarter	7Km
Near by village	2Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Baraha
Other Deity if any	Nill
Name of Guniya / Priest	N.A.
Type of Sacred Groove:	Collective
Patron Assistant	Collective
Kind of Offerings	Trishul, Nariyal ,Supari, Ganja, Chamita
Any devotional Song / Dance	Ramdhun
Entry Freedom: Y/N	Yes
Any specific day	Thrusday
Day of Worship	Daily
Time of Worship	Navarati
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navarati
Plants and its associates	Pipal, Ber, Jamun,Nimbu, Ganja, Mahua, Tendu, Saja, Semal, Gulbans, Chirchara, Kalihaldi, Rasadaal, Gulbakawali, Morepankhi, Jungali mint, Mandookparni, Pipal, Mahaneem, Junglibhata, Anti

Sacred Grove - 11

Name of Sacred Grove	Behar
Area	50 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Bichhia
Near by Village	Meda tal
Population	400
Water bodies	Nil
Tribe composition	Lohar, Gond, Kol
Location of Sacred Grove	Near Medatal
Distance from District Head Quarter	6Km
Near by village	2Km
Year of existence	50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Babadeo
Other Deity if any	Nill
Name of Guniya / Priest	N.A
Type of Sacred Groove:	Collective
Patron Assistant	N.A
Kind of Offerings	Nariyal, Flower, Agarbatti
Any devotional Song / Dance	Nill
Entry Freedom: Y/N	Yes
Any specific day	Mondey
Day of Worship	Daily
Time of Worship	Navarati
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navarati
Plants and its associates	Neeem, Koshum, Dhwa,Ixora, Anola, Char, Tendu, Bans,Dhawa ,Dudhi, Malkangani, mahua,Ber, Teak, Bhilma, lendia, Palas, Aam, Randia, Achyranthes, Ghont, Mahul, Kosum, Bador, Dikamali, Bhadar, Siharu, Narisaya, Amalthas

Sacred Grove -12

Name of Sacred Grove	Belpat
Area	50 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Anjania
Near by Village	Anjania
Population	400
Water bodies	Nill
Tribe composition	Gond, Ahir, Lohar
Location of Sacred Grove	Near Anjania
Distance from District Head Quarter	6Km
Near by village	2Km
Year of existence	30 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Bholenath,Devi, Hanumanji.
Other Deity if any	Banjarimata
Name of Guniya / Priest	N.A.
Type of Sacred Groove:	Collective
Patron Assistant	Collective
Kind of Offerings	Nariyal ,Flower Agarbatti
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Friday
Day of Worship	Daily
Time of Worship	Navarati, Shivratri
Rules followed for conservation of sanctity and biodiversity	Enter on Friday
On the Festival	Navratri
Plants and its associates	Teak, Mundi, Ghari, Dhawa, Saja, Ledia, Bhedri, Tendu, Anola, Carria, Dhawai, Neem, Mahaneem, Gardenia, Bans, Nirgundi, Mahua, Lendia, Bel, Gunja

Sacred Grove - 13

Name of Sacred Grove	Chitahri Pat
Area	500 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Nainpur
Near by Village	Ataria
Population	500-600
Water bodies	Nill
Tribe composition	Lohar, Gond, Pankha, Beiga
Location of Sacred Grove	Near Dhonora
Distance from District Head Quarter	7Km
Near by village	2Km
Year of existence	More than 50 years
Tradition (Manyata)	Same as Beiga baba
Name of Deity	Bada maharaj
Other Deity if any	Nill
Name of Guniya / Priest	N.A
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Pebbles, Nariyal, Ganna, Fruit
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey / Thrusday
Day of Worship	Daily
Time of Worship	All festival
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navaratri
Plants and its associates	Bel, Anola, Mahua, Khemar, Char, Pania bel, kala siris, Saja, Ber, Cissempeleo, Dudhi.

Sacred Grove - 14

Name of Sacred Grove	Devi madiya (Chaugan)
Area	10 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Bichia
Near by Village	Mohagoan
Population	600-800
Water bodies	Nill
Tribe composition	Gond, Beiga, Kol
Location of Sacred Grove	Near Mawai
Distance from District Head Quarter	8 Km
Near by village	3 Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Shardadevi
Other Deity if any	Nill
Name of Guniya / Priest	Bada panda
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal, Supari, Agarbatti, Ata ka prasad
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Friday
Day of Worship	Daily
Time of Worship	Navarati
Rules followed for conservation of sanctity and biodiversity	Som, Budha,Shukra.
On the Festival	Navaratri
Plants and its associates	Teak, Mundi, Ghari,Dhawa, Saja, Ledia, Bhedri, Tendu, Anola, Carria, Dhawai, Neem, Mahaneem, Gardenia, Bans, Nirgundi, Mahua, Lendia, Bel, Gunja.

Sacred Grove -15

Name of Sacred Grove	Sidhababa
Area	100 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Bichhia
Near by Village	Barghi
Population	600
Water bodies	Nill
Tribe composition	Yadav, Jhariya, Thakur
Location of Sacred Grove	Compartment no 67 R.F
Distance from District Head Quarter	5Km
Near by village	2Km
Year of existence	More than 25 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Sidha baba
Other Deity if any	Nill
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal, Supari, Agarbatti, Ata ka prasad
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey
Day of Worship	Daily
Time of Worship	Shivratri
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navarati
Plants and its associates	Gircha, Tendu, Dhawa, Lendia, Bahera, Saja, Kosum, Lokhandi, Tendu, Anola, Semar,Rori, Amahaldi, Kalimusali, Amorphlus, Ghemara, Elephantophus, Dioscorea, Beliospermum, Leea microphylla

Sacred Grove -16

Name of Sacred Grove	Hanuman tekri
Area	100 m^2
District	Mandla
Tehsil	Bichhia
Forest Range	Bichhia
Near by Village	Sijhora
Population	500
Water bodies	Nill
Tribe composition	Baiga, Gond, Panka, Lohar
Location of Sacred Grove	In a ground
Near by village	2Km
Distance from District HQ	7 Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	mahavir
Other Deity if any	Nill.
Name of Guniya / Priest	N.A
Type of Sacred Groove	Collective, Family, Clan
Patron/Assistant	Collective
Kind of Offerings	Nariyal, Supari, Agarbatti, Flowers
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Tuesday
Day of Worship	Daily
Time of Worship	All festival
On the Festival	Navratari
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
Plants and its associates	Saja, Sarai, Jam, Ber, Pakari, Sure, Kosum, Padpadi, Gulkawli, Janglihaldi, Fern, Sinduri, Keoti, Bootikand, Kalimusali, Safedmusali, Elephantophus, Commelalina

Sacred Grove - 17

Name of Sacred Grove	Jagdambani ashram
Area	50 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Bichhia
Near by Village	Devgaon
Population	600
Water bodies	Nill.
Tribe composition	Lohar, Gond, Ahir
Location of Sacred Grove	Near devgaon
Distance from District Head Quarter	7Km
Near by village	3Km
Year of existence	More than 25 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	All deties
Other Deity if any	All deties
Name of Guniya / Priest	N.A
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal, Flower, Agarbatti
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey, Thrusday
Day of Worship	Daily
Time of Worship	Navarati
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navratri
Plants and its associates	Pipal, Ber, Jamun, Nimbu, Ganja, Mahua, Tendu, Saja, Semal, Gulbans, Chirchara, Kalihaldi,Rasadaal, Gulbakawali, Morepankhi, Jungali mint, Mandookparni, Pipal, Mahaneem Junglibhata, Anti

Sacred Grove -18

Name of Sacred Grove	Jijham ashram
Area	100 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Bichhia
Near by Village	Rajo Karanjia
Population	600
Water bodies	Small Nala
Tribe composition	Lohar, Gond, Ahir
Location of Sacred Grove	Near karangia
Distance from District Head Quarter	7Km
Near by village	4Km
Year of existence	More than 25 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	All deties
Other Deity if any	All deties
Name of Guniya / Priest	N.A
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal, Flower, Agarbatti
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey,Thrusday
Day of Worship	Daily
Time of Worship	Navarati
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navratri
Plants and its associates	Pipal, Ber, Jamun, Nimbu, Ganja, Mahua, Tendu, Saja, Semal, Gulbans, Chirchara, Kalihaldi,Rasadaal, Gulbakawali, Morepankhi, Jungali mint, Mandookparni, Pipal, Mahaneem Junglibhata, Anti

Sacred Grove - 19

Name of Sacred Grove	Jungawani baba
Area	50 m^2
District	Mandla
Tehsil	Nanipur
Forest Range	Nainpur
Near by Village	Nainpur
Population	600
Water bodies	Nill
Tribe composition	Ahir,Dhobi, Kol
Location of Sacred Grove	Near Nainpur village
Distance from District Head Quarter	5Km
Near by village	3Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Shivji
Other Deity if any	Nagdevta
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Trishul, Chamita
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey
Day of Worship	Daily
Time of Worship	Navarati
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Shivratari
Plants and its associates	Aam, Jamun, Sal, Saja, Bargad, Mundi,Mahua, Kosum, Dhanbahar, Padpari, Tendu, Dokarbel, Gulkabali, Buch, Kuchai, Mohti, Dumar, Fern, Keoti, Alianthium, Dryopteries, Anjan, Elenthopapus, Jungali gajar, Commelina, Dioscorea, Dioscorea triphylla, Triumfetta, Kalimusli

Sacred Grove - 20

Name of Sacred Grove	Kamdheanu
Area	100 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Mohagoan
Near by Village	Deogoan
Population	400-600
Water bodies	Nill
Tribe composition	Jharia,Dhimar, Patel, Bhairmaya
Location of Sacred Grove	Near Paradhya tola deogoan
Distance from District Head Quarter	8Km
Near by village	2Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Kamdhenu
Other Deity if any	Bajarang bali
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal, Supari, Agarbatti, Meetha prasad
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Tuesday
Day of Worship	Daily
Time of Worship	Shivaratri
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Shivratari
Plants and its associates	Teak, Mundi, Ghari, Dhawa, Saja ,Ledia, Bhedri, Tendu, Anola, Carria, Dhawai, Neem, Mahaneem, Gardenia, Bans, Nirgundi, Mahua, Lendia, Bel, Gunja.

Sacred Grove - 21

Name of Sacred Grove	Khairati
Area	500 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Bichhia
Near by Village	Lohta
Population	400
Water bodies	Nill
Tribe composition	Ahir, Dhobi, Kol, Agariya
Location of Sacred Grove	In a Hill
Distance from District Head Quarter	5Km
Near by village	2Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Bada deo
Other Deity if any	Nill
Name of Guniya / Priest	N.A
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Trishul, Nariyal, Supari, Agarbatti, Ganja Chamita
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey
Day of Worship	Daily
Time of Worship	Shivratri
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Shivratri
Plants and its associates	Abroma, Bel, Dhawai, Grewia, Saja, Sarai, Jam, Ber, Pakari, Sure, Kosum ,Padpadi, Gulkawli, Janglihaldi, Fern, Sinduri,Keoti, Bootkand, kalimusali, Safedmusali, Elephantophus, Commelalina.

Sacred Grove - 22

Name of Sacred Grove	Kurlupat
Area	10 m^2
District	Mandla
Tehsil	Nainpur
Forest Range	Nainpur
Near by Village	Imaliatola, Padrigang
Population	600
Water bodies	Nill
Tribe composition	Lohar, Gond, Pankha, Beigha
Location of Sacred Grove	On right side on main road in nainpur pdarigang road
Distance from District Head Quarter	9Km
Near by village	3Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Bandevi
Other Deity if any	Pat baba
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Pebbles and stone offered
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey
Day of Worship	Daily
Time of Worship	Navarati
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Makaransakaranti
Plants and its associates	Grewia hirsutas, Kosum, Bans

Sacred Grove - 23

Name of Sacred Grove	Mudiya pat
Area	50 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Bichhia
Near by Village	Amwar
Population	600-800
Water bodies	Nill
Tribe composition	Gond, Beiga, Kol
Location of Sacred Grove	Near Mawai
Distance from District Head Quarter	8 Km
Near by village	3 Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Banjari mata
Other Deity if any	Nill
Name of Guniya / Priest	N.A
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal, Supari, Agarbatti, Ata ka prasad
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Friday
Day of Worship	Daily
Time of Worship	Navarati
Rules followed for conservation of sanctity and biodiversity	Som, Budha,Shukra.
On the Festival	Navaratri
Plants and its associates	Sal,Teak, Mundi, Ghari,Dhawa, Saja, Ledia, Bhedri, Tendu, Anola, Carria, Dhawai, Neem, Mahaneem, Gardenia, Bans, Nirgundi, Mahua, Lendia, Bel, Gunja.

Sacred Grove - 24

Name of Sacred Grove	Navnadar
Area	100 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Bamhni
Near by Village	Jarga
Population	600
Water bodies	Nill
Tribe composition	Gond, Yadav, Dhobi
Location of Sacred Grove	Near jarga
Distance from District Head Quarter	6Km
Near by village	3Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Sidha baba
Other Deity if any	Nill
Name of Guniya / Priest	N.A
Type of Sacred Groove:	Collective
Patron Assistant	Collective
Kind of Offerings	Nariyal, Trishul
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey
Day of Worship	Daily
Time of Worship	Navarati
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Sakaranti
Plants and its associates	Pipal, Ber, Jamun, Nimbu, Ganja, Mahua, Tendu, Saja, Semal, Gulbans, Chirchara, Kalihaldi, Rasadaal,Gulbakawali, Morepankhi, Jungali mint, Mandookparni, Pipal, Mahaneem, Junglibhata, Anti

Sacred Grove - 25

Name of Sacred Grove	Chakkiyapat
Area	30 m2
District	Mandla
Tehsil	Mandla
Forest Range	Bamhani
Near by Village	Kamta, Indri
Population	150-300
Water bodies	Kmanar river
Tribe composition	Dhobi, Ahir, Kol, Agaria, Chamar,Sahu, Pandit, Marrar.
Location of Sacred Grove	Near kamta Indri
Distance from District Head Quarter	3Km
Near by village	1.5Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Shankarji
Other Deity if any	Nil
Name of Guniya / Priest	Not applicable
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal, Supari, Agarbatti, Ata ka prasad
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey
Day of Worship	Monday
Time of Worship	Navarati
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navaratri
Plants and its associates	Dhawa, Beeja , Palas, Lendia, Peepal, Garari, Teak, Tendu, Neem, Char, Sithaphal, Bel, Nirgundi, Butea, Aam, Dhawai, Ghar, Laksman buti. Jatropha.

Sacred Grove - 26

Name of Sacred Grove	Shivji ka mandir
Area	50 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Mohagoan
Near by Village	Deogoan
Population	600
Water bodies	Namaradaji
Tribe composition	Lohar, Gond, Pankha, Beiga
Location of Sacred Grove	Near Deogoan on Narmada bank
Distance from District Head Quarter	7Km
Near by village	3Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Shivji
Other Deity if any	Nil
Name of Guniya / Priest	Haridas Maharaj
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal, Supari, Agarbatti, Ata ka prasad
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey
Day of Worship	Daily
Time of Worship	Shivratri
Rules followed for conservation of sanctity and biodiversity	Enter on Monday
On the Festival	Makarsakaranti
Plants and its associates	Bel, Bad, Peepal, Bihi, Neem, Aam, Eucalyptus.

Sacred Grove - 27

Name of Sacred Grove	Sidha baba
Area	100 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Mandla
Near by Village	Podilinga
Population	500
Water bodies	Namaradaji
Tribe composition	Mahatar, Pandit, Patel
Location of Sacred Grove	Top of the hills main road chabi near podi beat office
Distance from District Head Quarter	7Km
Near by village	2Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Namaradaji
Other Deity if any	Baba
Name of Guniya / Priest	Pandit Santosh
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal, Meetha prasad
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey
Day of Worship	Daily
Time of Worship	All festival
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navratri
Plants and its associates	Dhawa, Beeja Lendia, Peepal, Garari, Teak, Tendu, Neem, Char, Sithaphal, Bel, Nirgundi, Buatea, Aam, Dhawai, Ghar

Sacred Grove - 28

Name of Sacred Grove	Sitarapatan
Area	100 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Mandla
Near by Village	Sitarapatan
Population	500
Water bodies	Nill
Tribe composition	Dhobi, Ahir, Kol, Agaria, Chamar, Thakur
Location of Sacred Grove	2km from Rata village
Distance from District Head Quarter	5Km
Near by village	3Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Badebaba
Other Deity if any	Nill
Name of Guniya / Priest	N.A
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal ,Chana, Chirongi, Agarbatti
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey
Day of Worship	Daily
Time of Worship	Shivratri/ Navratri
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Shivratri
Plants and its associates	Neem,Bargad, Dhawa, Beeja Lendia, Peepal, Garari, Teak, Tendu, Neem, Char, Sithaphal, Bel, Nirgundi, Buatea, Aam, Dhawai, Ghari, Laksman buti, Jatropha.

Sacred Grove - 29

Name of Sacred Grove	Surajkund
Area	100 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Mawai
Near by Village	Bilgoan
Population	600
Water bodies	Surajkund
Tribe composition	Lohar, Gond, Beiga
Location of Sacred Grove	Near Bilogoan
Distance from District Head Quarter	7Km
Near by village	3Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Sidhapat
Other Deity if any	Chausat yogani
Name of Guniya / Priest	N.A
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal, Supari, Agarbatti
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Mondey,Friday
Day of Worship	Daily
Time of Worship	Navaratri
Rules followed for conservation of sanctity and biodiversity	Enter only Budha
On the Festival	Navarati
Plants and its associates	Pipal, Ber Jamun, Nimbu, Ganja, Mahua, Tendu, Saja, Semal, Gulbans, Chirchara, Kalihaldi,Rasadaal, Gulbakawali, Morepankhi, Jungali mint, Mandookparni, Pipal, Mahaneem Jungli bhata, Anti

Sacred Grove - 30

Name of Sacred Grove	Upka
Area	100m^2
District	Mandla
Tehsil	Mandla
Forest Range	Chabi
Near by Village	Chabi
Population	150-300
Water bodies	N.A
Tribe composition	Dhobi, Ahir, Kol, Agaria, Chamar,Sahu, Pandit, Marrar.
Location of Sacred Grove	On mandla chabi raod
Distance from District Head Quarter	3Km
Near by village	1.5Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Budi mata
Other Deity if any	Nill
Name of Guniya / Priest	N.A
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal, Supari, Agarbatti, Ata ka prasad
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Friday
Day of Worship	Daily
Time of Worship	Navarati
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navaratri
Plants and its associates	Neem,Peepal Dhawa, Beeja , Palas, Lendia, Peepal, Garari, Teak, Tendu, Neem, Char, Sithaphal, Bel, Nirgundi, Butea, Aam, Dhawai, Ghar, Laksman buti. Jatropha.

6.2 FLORISTIC COMPOSITION AND PLANT DIVERSITY

All the Sacred Groves form Mandla district of Madhya Pradesh has been surveyed and inventory of plant diversity were prepared. Total 140 plant species belonging to 55 families arranged alphabetically with their local name, family name and habit are given in Table – 6. The colleced data reflects richness of floral as well as medicinal plants diversity. Availability of plants and associated floristic composition, which is one of the major charactersitic, is distinguishing plants community, depending upon the sites and other environmental conditions. Plants diversity of sacred groves is as evident from data comprised of 109 genera belonging to 140 species and 55 families (Table – 7).

Table – 6: List of species present in the sacred groves.

S. No.	Botanical Name	Family	Local Name	Habit
1.	*Acacia lenticularis*	Papilionaceae	Kirangi	T
2.	*Achyranthus aspera*	Amaranthaceae	Chirchira	H
3.	*Adiantum capillus veneris*	Adiantaceae	Adiantum	H
4.	*Adiantum lunulatum*	Adiantaceae	Adiantum	H
5.	*Aegle marmelos*	Rutaceae	Bel	T
6.	*Aerva lanata*	Amaranthaceae	Chaya	H
7.	*Agave sissalana*	Agavaceae	Agave	H
8.	*Albizia lebbeck*	Papilionaceae	Basa	T
9.	*Ampelocissus tomentosus*	Vitaceae	Jangliangur	C
10.	*Anogeissus latifolia*	Combretaceae	Dhawa	T
11.	*Areisema tortuosum*	Araceae	Suran	H
12.	*Argemone maxicana*	Papaveraceae	Kateli	H
13.	*Arthraxon ciliaris*	Poaceae	Basin	G
14.	*Azadirachta indica*	Meliaceae	Neem	T
15.	*Bambusa arundinacea*	Poaceae	Bans	G
16.	*Bauhinia racemosa*	Papilionaceae	Ashta	T
17.	*Bauhinia retusa*	Papilionaceae	Thour	T
18.	*Bauhinia vahlii*	Papilionaceae	Mahul	LT
19.	*Boerhavia diffusa*	Nyctaginaceae	Punarnava	H
20.	*Bombax ceiba*	Bombacaceae	Semra	T
21.	*Boswellia serrata*	Burseraceae	Salhein	T
22.	*Bridelia retusa*	Rubiaceae	Khassi	T
23.	*Buchanania lanzan*	Anacardiaceae	Char	T
24.	*Butea monosperma*	Papilionaceae	Palas	T
25.	*Butea parviflora*	Papilionaceae	Bel palas	LT
26.	*Butea sp.*	Burseraceae	Bhador	T
27.	*Butea superba*	Papilionaceae	Palasbel	LT
28.	*Calotropis gigantean*	Asclepiadaceae	Aak	H
29.	*Cannabis sativa*	Apiaceae	Ganja	H

30.	*Carissa opaca*	Apocynaceae	Karonda	ST
31.	*Casearia elliptica*	Euphorbiaceae	Kirchi	T
32.	*Cassia fistula*	Papilionaceae	Dhanbahar	T
33.	*Cassia occidentalis*	Papilionaceae	Kasondhi	ST
34.	*Cassia tora*	Papilionaceae	Chakoda	H
35.	*Catharanthus roseus*	Apocynaceae	Sadasuhagan	H
36.	*Celastrus paniculata*	*Celastraceae*	Malkangni	LT
37.	*Centella aisatica*	Apiaceae	Brahmi	H
38.	*Chlorophytum arundinaceum*	Liliaceae	Safed musli	H
39.	*Cissempelos pareira*	Menispermaceae	Padhin	C
40.	*Citrus sp.*	Rutaceae	Nimbu	ST
41.	*Colebrookea oppositifolia*	Amaranthaceae	Amera	ST
42.	*Colocasia sp.*	Zingiberaceae	Jangli arbi	H
43.	*Curculigo orchiodes*	Hypoxidaceae	Kali musli	H
44.	*Curcuma angustifolia*	Zingiberaceae	Tikhur	H
45.	*Curcuma aromatica*	Zingiberaceae	Jangli haldi	H
46.	*Curcuma caesia*	Zingiberaceae	Kali haldi	H
47.	*Cyanotis fasciculate*	Commelinaceae	Teenpati	H
48.	*Cynoglossum sp.*	Cycadaceae	Bhojraj	H
49.	*Cyperus scariosus*	Cyperaceae	Nagarmotha	H
50.	*Dalbergia latifolia*	Fabaceae	Shisum	T
51.	*Delonix regia*	Papilionaceae	Gulmohar	T
52.	*Dendrocalamus strictus*	Poaceae	Bans	G
53.	*Dillenia pentgyna*	Dillenaceae	Kalle	T
54.	*Dioscorea pentaphyla*	Dioscoreaceae	Jamin kanda	C
55.	*Dioscorea bulbifera*	Dioscoreaceae	Airpotato	C
56.	*Dioscorea hispida*	Dioscoreaceae	Baichandi	C
57.	*Diospyros melanoxylon*	Ebenaceae	Tendu	T
58.	*Diospyros Montana*	Ebenaceae	Pator	T
59.	*Eclipta alba*	Asteraceae	Ghamra	H
60.	*Elephanthopus scaber*	Asteraceae	Elephantopus	H
61.	*Embelia basal*	Menispermaceae	Baibirang	ST
62.	*Eriolaena sp.*	Eriolaenaceae	Bothi	T
63.	*Eucalyptus sp.*	Myrtaceae	Nilgiri	T
64.	*Euphorbia hirta*	Euphorbiaceae	Euphorbia	H
65.	*Ficus benghalensis*	Moraceae	Bad	T
66.	*Ficus glomerata*	Moraceae	Umar	T
67.	*Ficus religiosa*	Moraceae	Peepal	T
68.	*Ficus semicordata*	Moraceae	Ghui	T
69.	*Ficus virens*	Moraceae	Pakri	T
70.	*Flacourtia indica*	Flacourtiaceae	Kekad	T

71.	*Flemingia semialata*	Fabaceae	Vanrahar	ST
72.	*Gardenia latifolia*	Rubiaceae	Bandarladdo	T
73.	*Gardenia resinifera*	Rubiaceae	Dikamali	T
74.	*Globba sp.*	Zingiberaceae	Ganji	H
75.	*Gloriosa superba*	Liliaceae	Kalihari	C
76.	*Grewia hirsute*	Tiliaceae	Gursakri	ST
77.	*Hedychium coronarium*	Zingiberaceae	Gulbkawli	H
78.	*Helicteres isora*	Sterculiaceae	Ainthi	T
79.	*Hibiscus crinitus*	Malvaceae	Khatua	H
80.	*Hisbiscus rosa sinensis*	Malvaceae	Jason	ST
81.	*Holarrhena antidysentrica*	Asclepiadaceae	Dudhi	T
82.	*Holoptelea integrifolia*	Ulmaceae	Chirol	ST
83.	*Hydrocotyle asiatica*	Apiaceae	Brahmi	H
84.	*Ipomoea batata*	Convolvulaceae	Sakarkand	C
85.	*Ipomoea sps.*	Convolvulaceae	Kanda	C
86.	*Jatropha curcas*	Euphorbiaceae	Jatropha	ST
87.	*Lagerstoemia parviflora*	Lythraceae	Lendia	T
88.	*Lannea coromandelica*	Anacardiaceae	Gunja	T
89.	*Lantana camara*	Asteraceae	Lantana	ST
90.	*Mallotus phillipensis*	Euphorbiaceae	Sinduri	T
91.	*Mangifera indica*	Anacardiaceae	Aam	T
92.	*Marselia minuta*	Marseliaceae	chaupati	H
93.	*Melia azadirach*	Meliaceae	Mahaneem	T
94.	*Mentha sp.*	Asteraceae	Jangli mint	H
95.	*Merremia emarginata*	Convolvulaceae	Musakari	H
96.	*Mirabilis jalapa*	Nyctaginaceae	Gulbans	H
97.	*Mitragyna parviflora*	Rubiaceae	Mundi	T
98.	*Nyctanthes arbor-tristis*	Nyctanthaceae	Hasshingar	T
99.	*Oberonia sp.*	Orchidaceae	Banda	H
100.	*Peucedanum dhana*	Apiaceae	Tejraj	H
101.	*Phoenix acaulis*	Arecaceae	Chhind	H
102.	*Phyllanthus emblica*	Euphorbiaceae	Aonla	T
103.	*Phyllanthus simplex*	Euphorbiaceae	Bhuiaonla	H
104.	*Phyllanthus urinaria*	Euphorbiaceae	Lal Bhui aonla	H
105.	*Polygonum glabrum*	Polygonaceae	Kaneri	H
106.	*Psidium guajava*	Myrtaceae	Bihi	T
107.	*Pueraria tuberose*	Papilionaceae	Vidarikand	C
108.	*Randia dumetorum*	Rubiaceae	Mainphal	T
109.	*Rhyncostylis sp.*	Orchidaceae	Banda	
110.	*Ricinus communis*	Euphorbiaceae	Andi	T
111.	*Rubia cordifolia*	Rubiaceae	Pilia	C

112.	*Polyalthia longifolia*	Caesalpiniaceae	Asoka	T
113.	*Scilla hyacintheana*	Liliaceae	-	H
114.	*Semecarpus anacardium*	Anacardaceae	Bhilwa	T
115.	*Shorea robusta*	Dipterocarpaceae	Sal	T
116.	*Sida acuta*	Malvaceae	Bariyari	H
117.	*Smilax zeylanica*	Liliaceae	Potar	LT
118.	*Solanum indicum*	Solanaceae	Chhoti kateli	H
119.	*Solanum viarum*	Solanaceae	Jangli bhata	H
120.	*Solanum xanthocarpum*	Solanaceae	Kateli	H
121.	*Sterculia urens*	Sterculiaceae	Kullu	T
122.	*Sterespermum chelinoides*	Bigionaceae	Hadua	T
123.	*Syzygium cumini*	Myrtaceae	Jamun	T
124.	*Syzygium heyneanum*	Myrtaceae	Katjamun	T
125.	*Tamarindus indicus*	Anacardaceae	Imli	T
126.	*Tectona grandis*	Verbenaceae	Sagon	T
127.	*Terminalia alata*	Combretaceae	Saja	T
128.	*Terminalia arjuna*	Combretaceae	Arjun	T
129.	*Terminalia bellirica*	Combretaceae	Bahera	T
130.	*Terminalia chebula*	Combretaceae	Harra	T
131.	*Thalictrum foliolosum*	Ranunculaceae	Mamiri	H
132.	*Tridex procumbens*	Asteraceae	Patharchata	H
133.	*Urgenia indica*	Liliaceae	Jangli pyaz	H
134.	*Vallaris solanacea*	Asclepiadaceae	Dudhibel	C
135.	*Vanda tassetacea*	Orchidaceae	Vanda	Ep
136.	*Vanda tessalata*	Orchidaceae	Vanda	Ep
137.	*Ventilago denticulate*	Rhamnaceae	Keonti	LT
138.	*Ziziphus jujube*	Rhamnaceae	Ber	T
139.	*Ziziphus nummularia*	Rhamnaceae	Jharberi	T
140.	*Ziziphus Oenoplia*	Rhamnaceae	Ghout	T

Table – 7: Stastsical Analysis of Plant Diversity

Family	Genra	Species
55	**109**	**140**

Collected data revealed that (Table - 8) 6 large sized trees, 59 medium sized trees, 11 small trees, 47 herbs, 11 climbers, 3 grasses and 3 epiphytes are identified from the different sacred groves (Figure – 4) shows that maximum number of trees falls under middle age group. Herbacious flora is also rich in different sacred groves.

Table - 8: Habitate wise Plant Diversity in Sacred Grove

Habit	Number of Plants
CLIMBERS	11
EPIPHYTES	3
GRASSESS	3
HERBS	47
LARGE TREES	6
MEDIUM TREES	59
SMALL TREES	11
Total	**140**

Among the total 55 families found in the study sites 25 families were mono typic species as they have only one species. According to 10 families having only 2 species. Whereas 7 families having 3 species, 6 families 4 species, 3 families only 5 species, 3 families is having 6 to 10 species and only one family (Paplionaceae) is having more than 10 species (Table – 9).

Table - 9: Name of family and number of species

Family Name	Number of Species
Adiantaceae	2
Agavaceae	1
Amaranthaceae	3
Anacardiaceae	4
Apiaceae	4
Apocynaceae	2
Araceae	1
Arecaceae	1
Asclepiadaceae	3
Asteraceae	4
Bigionaceae	1
Bombacaceae	1
Burseraceae	2
Caesalpiniaceae	1
Celastraceae	1

Combretaceae	5
Commelinaceae	1
Convolvulaceae	3
Cycadaceae	1
Cyperaceae	1
Dillenaceae	1
Dioscoreaceae	3
Dipterocarpaceae	1
Ebenaceae	2
Eriolaenaceae	1
Euphorbiaceae	8
Fabaceae	2
Flacourtiaceae	1
Hypoxidaceae	1
Liliaceae	5
Lythraceae	1
Malvaceae	3
Marseliaceae	1
Meliaceae	2
Menispermaceae	2
Moraceae	5
Myrtaceae	4
Nyctaginaceae	2
Nyctanthaceae	1
Orchidaceae	4
Papaveraceae	1
Papilionaceae	13
Poaceae	3
Polygonaceae	1
Ranunculaceae	1
Rhamnaceae	4
Rubiaceae	6
Rutaceae	2
Solanaceae	3
Sterculiaceae	2
Tiliaceae	1
Ulmaceae	1
Verbenaceae	1
Vitaceae	1
Zingiberaceae	6

25 families is having only 1 species (Table – 10) whereas 10 families consiting two species, 7, 6 and 3 families are with 3 species, 6 species, 5 and 6 species and only 1 family is having more than 10 species (i.e. family Paplionaceae).

Table – 10: Number of family with number of species

No. of Species	Family
1 species	25
2 species	10
3 species	7
4 species	6
5 species	3
6 to 10 species	3
More than 10 species	1
Total	**55**

The status of 10 dominant families determined from the study sites, stated that *Paplionaceae* is the most dominant family and hold the first position with 15 species follwed by Euphorbiaceae 8 species (Figure – 5). The other major dominant families from third position to thenth position are Rubiaceae and Zingeberaceae 6 species, Comberataceae, Moraceae and Liliacea 5 species, Myritaceae, Ochidaceae and Rhamnaceae 4 species. The details of ten dominant families find out from the data analysis are given in Table – 11 with name of the family and their respective number of species.

Table - 11: Status of Ten dominant family

POSITION	NAME OF FAMILY	NUMBER OF SPECIES
I	Papilionaceae	15
II	Euphorbiaceae	8
III	Rubiaceae	6
IV	Zingiberaceae	6
V	Combretaceae	5
VI	Liliaceae	5
VII	Moraceae	5
VIII	Myrtaceae	4
IX	Orchidaceae	4
X	Rhamnaceae	4

6.3 PLANT DIVERSITY INDEX

Total 44 tree species were recorded from the different sacred groves during the quadret survey. Obsevation determined with reference to frequency, density ha^{-1}, basal area ha^{-1}, IVI and diversity index of all 44 tree species is given in **Table - 12**. The frequency of ***Lagerstoemia parviflora, Madhuca latifolia*** and ***Terminalia alata*** was found to

be 100% in the all sacred groves. The total density ha^{-1} in this community is recorded to be 548 trees ha^{-1}, out of which the major three species namely ***Madhuca latifolia, Lagerstoemia parviflora*** and ***Terminalia alata*** represented 117 trees ha^{-1}, 87 trees ha^{-1} and 68 trees ha^{-1} respectively. The basal area ha^{-1} occupied by the total tree species is 19.86 ha^{-1} of which the maximum values were that of ***Madhuca latifolia*** (5.18 ha^{-1}) followed by ***Terminalia alata*** (2.20 m^2 ha^{-1})***, Gardenia latifolia*** (1.78 m^2 ha^{-1}) and ***Lagerstoemia parviflora*** (1.74 m^2 ha^{-1}). The highest IVI values recorded by the major tree association in this community was formed by ***Madhuca latifolia*** (IVI – 55.06%)***, Lagerstoemia parviflora*** (IVI – 32.19%)***, Terminalia alata*** (IVI – 31.13%) and ***Buchanania lanzan*** (IVI – 23.74%)**.** The value of diversity index in sacred groves for tree community was calculated as 3.05, a fairly good representation of diversity of tree species. The maximum diversity index values found of ***Madhuca latifolia, Lagerstoemia parviflora, Terminalia alata*** and ***Buchanania lanzan*.**

Table - 13 shows the status of shrub layer structure in different sacred groves, which is constituted by an association of 34 species. ***Lantana camara, Holarrhena pubescens*** and ***Lagerstoemia parviflora*** represented maximum frequency level in the shrub association with values of 77.8%, 68.52% and 64.81%. Whereas the density ha^{-1} of shrub species namely ***Lantana camara*** (1867 plants ha^{-1}), ***Holarrhena pubescens*** (1089 plants ha^{-1}) and ***Anogeissus latifolia*** (956 plants ha^{-1}) shows higher concentration. Abundance ha^{-1} of shrub species *viz.* ***Lantana camara***, ***Anogeissus latifolia*** and ***Phyllanthus emblica*** recorded maximum values. IVI values of the major shrub association in this community was formed by ***Lantana camara*** (IVI – 28.91%)***, Holarrhena pubescens*** (IVI – 19.62%)***,*** and ***Anogeissus latifolia*** (IVI – 17.72%), ***Lagerstoemia parviflora*** (IVI – 15.90%) and ***Terminalia alata*** (IVI – 14.74%). *S*hrub species ***Lantana camara, Holarrhena pubescens*** and ***Anogeissus latifolia*** showed diversity index between 0.17-0.23.

The herbaceous layer of different sacred groves reported 68 species including regeneration of various tree and shrub species (**Table - 14**). Total density ha^{-1} of herbs in sacred groves was found to be 371333 plants; abundance ha^{-1} 1674936 plants, and diversity index was 1.77 respectively. ***Elephantopus scaber, Cassia tora*** and ***Hyptis suaveolens*** showed maximum values of frequency % and density ha^{-1}. ***Boswellia serrata, Cyanotis fasciculata*** and ***Elephantopus scaber*** recorded high abundance ha^{-1} whereas ***Elephantopus scaber*** (IVI – 9.07%), ***Hyptis suaveolens*** (IVI – 7.54%) and ***Cassia tora*** (IVI – 4.97%) recorded maximum importance value index. The diversity index was maximum for ***Elephantopus scaber*** (0.11) followed by ***Hyptis suaveolens*** (0.09) and ***Cassia tora*** (0.07).

Table – 12 : Phytosociological atttributes of Tree species diversity

S.No.	Botanical name	F%	Density/ha	Basal area m2/ha	IVI	DI
1	*Acacia leucophloea*	5.56	1.04	0.02	0.73	0.01
2	*Aegle marmelos*	22.22	2.08	0.10	2.59	0.04
3	*Anogeissus latifolia*	94.44	54.17	1.01	22.20	0.19
4	*Bombax ceiba*	11.11	1.74	0.11	1.70	0.03
5	*Boswellia serrata*	27.78	6.25	0.28	4.65	0.06
6	*Bridellia retusa*	22.22	1.74	0.08	2.43	0.04
7	*Buchanania lanzan*	83.33	48.26	1.70	23.74	0.20
8	*Butea monosperma*	22.22	3.47	0.10	2.85	0.04
9	*Careya arborea*	16.67	2.78	0.16	2.56	0.04
10	*Cassia fistula*	27.78	4.51	0.10	3.45	0.05
11	*Cassine glauca*	11.11	1.74	0.04	1.36	0.02
12	*Catunaregum spinosa*	11.11	0.69	0.01	1.03	0.02
13	*Cordia dichotoma*	5.56	0.35	0.00	0.51	0.01
14	*Dalbergia peniculata*	5.56	1.04	0.05	0.86	0.02
15	*Diospyos melanoxylon*	77.78	22.22	0.32	11.61	0.13
16	*Ficus bengalensis*	5.56	0.35	0.49	2.94	0.05
17	*Ficus religiosa*	5.56	0.35	0.27	1.82	0.03
18	*Flacourtia indica*	50.00	18.06	0.32	8.71	0.10
19	*Gardenia latifolia*	5.56	0.69	1.78	9.53	0.11
20	*Garuga pinnata*	5.56	0.35	0.01	0.55	0.01
21	*Grewia tiliaefolia*	16.67	2.43	0.09	2.14	0.04
22	*Haldinia cordifolia*	16.67	2.78	0.12	2.39	0.04
23	*Holarrhena pubescens*	11.11	1.74	0.03	1.32	0.02
24	*Lagerstoemia parviflora*	100.00	86.46	1.74	32.19	0.24
25	*Lannea coromandelica*	38.89	9.38	0.45	6.93	0.09
26	*Litsea glutinosa*	11.11	1.74	0.06	1.45	0.03
27	*Madhuca latifolia*	100.00	117.01	5.18	55.06	0.31
28	*Miliusa tomentosa*	66.67	12.50	0.32	8.99	0.11
29	*Mitragyna parviflora*	11.11	1.39	0.05	1.33	0.02
30	*Nyctanthus arbor-tristis*	11.11	0.69	0.03	1.12	0.02
31	*Ougeinia oogeinensis*	33.33	4.51	0.19	4.30	0.06
32	*Pasin*	11.11	1.74	0.08	1.55	0.03
33	*Phyllanthus emblica*	44.44	17.01	0.32	8.13	0.10
34	*Semicapus anacardium*	11.11	2.43	0.09	1.73	0.03
35	*Somida febrifuga*	11.11	2.78	0.10	1.83	0.03
36	*Stereospermum chelonoides*	11.11	0.69	0.07	1.33	0.02
37	*Syzygium cumini*	27.78	4.86	0.27	4.36	0.06
38	*Tectona grandis*	22.22	5.21	0.15	3.42	0.05
39	*Terminalia arjuna*	5.56	1.04	0.08	1.03	0.02
40	*Terminalia bellirica*	27.78	6.94	0.67	6.76	0.09
41	*Terminalia chebula*	66.67	15.97	0.54	10.73	0.12
42	*Terminalia alata*	100.00	68.06	2.20	31.13	0.24
43	*Wrightia tinctoria*	11.11	2.43	0.09	1.73	0.03
44	*Ziziphus galberrima*	27.78	5.90	0.12	3.82	0.06
			547.57	**19.86**	**300.00**	**3.05**

Table – 13 : Phytosociological atttributes of Shrub species diversity

S.No.	Botanical Name	F%	Density/ha	Abundence/ha	R.A.	IVI	DI
1	*Acacia pennata*	33.33	377.78	1133.33		9.37	0.11
2	*Anogeissus latifolia*	57.41	955.56	1664.52		17.72	0.17
3	*Bombax ceiba*	16.67	140.74	844.44		5.09	0.07
4	*Boswellia serrata*	11.11	59.26	533.33		3.04	0.05
5	*Buchanania lanzan*	29.63	237.04	800.00		6.97	0.09
6	*Butea monosperma*	29.63	274.07	925.00		7.61	0.09
7	*Carissa opaca*	44.44	577.78	1300.00		12.48	0.13
8	*Casearia graveolens*	22.22	200.00	900.00		6.25	0.08
9	*Cassia fistula*	31.48	311.11	988.24		8.26	0.10
10	*Catunaregum spinosa*	25.93	170.37	657.14		5.69	0.08
11	*Dendrocalamus strictus*	22.22	177.78	800.00		5.79	0.08
12	*Diospyos melanoxylon*	46.30	674.07	1456.00		13.85	0.14
13	*Embelia basaal*	51.85	614.81	1185.71		13.16	0.14
14	*Flacourtia indica*	20.37	148.15	727.27		5.18	0.07
15	*Gardenia latifolia*	18.52	192.59	1040.00		6.23	0.08
16	*Gardenia turgida*	24.07	229.63	953.85		6.81	0.09
17	*Garuga pinnata*	9.26	59.26	640.00		3.16	0.05
18	*Grewia tiliaefolia*	9.26	44.44	480.00		2.60	0.04
19	*Holarrhena pubescens*	68.52	1088.89	1589.19		19.62	0.18
20	*Kydia calycina*	20.37	162.96	800.00		5.50	0.07
21	*Lagerstoemia parviflora*	64.81	792.59	1222.86		15.90	0.16
22	*Lantana camara*	77.78	1866.67	2400.00		28.91	0.23
23	*Madhuca latifolia*	46.3	414.81	896.00		10.24	0.1

		0					2
24	*Milusa tomentosa*	14.81	133.33	900.00		5.01	0.07
25	*Nyctanthus arbor-tristis*	16.67	251.85	1511.11		7.85	0.10
26	*Phyllanthus emblica*	37.04	600.00	1620.00		12.85	0.13
27	*Tectona grandis*	22.22	296.30	1333.33		8.23	0.10
28	*Terminalia bellirica*	18.52	140.74	760.00		5.03	0.07
29	*Terminalia chebula*	18.52	140.74	760.00		5.03	0.07
30	*Terminalia alata*	51.85	733.33	1414.29		14.74	0.15
31	*Woodfordia fruticosa*	12.96	66.67	514.29		3.22	0.05
32	*Ziziphus galberrima*	29.63	311.11	1050.00		8.26	0.10
33	*Ziziphus nummularia*	14.81	111.11	750.00		4.42	0.06
34	*Zizyphus oenoplia*	22.22	185.19	833.33		5.94	0.08
			12740.74	**35383.2**		**300.00**	**3.36**

Table – 14 : Phytosociological atttributes of herbaceous species diversity

S.No.	Botanical name	F%	Dendity/ha	Abundance/ha	IVI	DI
1	Abrus precatorius	3.33	1000.00	30000	0.72	0.01
2	Acacia leucophloea	7.78	1333.33	17142.86	0.65	0.01
3	Acanthosperum hispidum	3.33	555.56	16666.67	0.44	0.01
4	Achyranthus aspera	10.00	1888.89	18888.89	0.80	0.02
5	Aerva lanata	10.00	1555.56	15555.56	0.71	0.01
6	Aeschynomene indica	13.33	5333.33	40000.00	1.63	0.03
7	Ageratum conyzoides	3.33	888.89	26666.67	0.65	0.01
8	Alternanthera sessilis	37.78	7333.33	19411.76	2.15	0.04
9	Alysicarpus hamosus	25.56	10888.89	42608.70	2.61	0.04
10	Amorphophallus bulbifer	17.78	2000.00	11250.00	0.89	0.02
11	Argemone maxina	22.22	8666.67	39000.00	2.21	0.04
12	Aspargus racemosus	11.11	2444.44	22000.00	0.95	0.02
13	Atylosia scarabaeoides	36.67	12111.11	33030.30	2.87	0.04
14	Barleria cristata	31.11	11000.00	35357.14	2.64	0.04
15	Barleria prionitis	15.56	3666.67	23571.43	1.23	0.02
16	Bidens biternata	48.89	8666.67	17727.27	2.56	0.04
17	Biophytum sensitivium	4.44	1666.67	37500.00	0.95	0.02
18	Blepharis repens	10.00	1888.89	18888.89	0.80	0.02
19	Blumea lacera	8.89	1666.67	18750.00	0.75	0.01
20	Boerhavvia diffusa	18.89	4333.33	22941.18	1.38	0.02
21	Bupleurum ramosissimum	17.78	3333.33	18750.00	1.17	0.02
22	Calotropis procera	3.33	888.89	26666.67	0.65	0.01
23	Canscora decussata	38.89	7222.22	18571.43	2.15	0.04
24	Canscora diffusa	24.44	4888.89	20000.00	1.54	0.03
25	Carissa opaca	11.11	2222.22	20000.00	0.89	0.02
26	Cassia fistula	28.89	5333.33	18461.54	1.68	0.03

27	Cassia tora	65.56	23777.78	36271.19	4.97	0.07
28	Celastrus paniculatus	61.11	11666.67	19090.91	3.24	0.05
29	Chlorophytum tuberosum	20.00	3111.11	15555.56	1.15	0.02
30	Clerodendrum indicum	10.00	2000.00	20000.00	0.83	0.02
31	Clerodendrum serratum	8.89	1333.33	15000.00	0.64	0.01
32	Clitoria ternatea	13.33	6111.11	45833.33	1.82	0.03
33	Commelina paludosa	28.89	10888.89	37692.31	2.61	0.04
34	Crotalaria medicaginea	6.67	1666.67	25000.00	0.79	0.02
35	Crotalaria prostrata	13.33	3111.11	23333.33	1.10	0.02
36	Curcuma angustifolia	45.56	12111.11	26585.37	3.00	0.05
37	Curcuma aromatica	16.67	2111.11	12666.67	0.90	0.02
38	Cyathocline purpurea	8.89	1666.67	18750.00	0.75	0.01
39	Desmodium triflorum	22.22	5333.33	24000.00	1.59	0.03
40	Dioscoria hispida	50.00	15000.00	30000.00	3.49	0.05
41	Dioscoria pentaphylla	18.89	7555.56	40000.00	2.02	0.03
42	Eclipta prostrata	5.56	1666.67	30000.00	0.85	0.02
43	Elephantopus scaber	93.33	51777.78	55476.19	9.07	0.11
44	Emilia sonchifolia	27.78	4555.56	16400.00	1.53	0.03
45	Euphorbia hirta	5.56	1777.78	32000.00	0.90	0.02
46	Euphorbia indica	11.11	3111.11	28000.00	1.12	0.02
47	Gloriosa superba	18.89	5333.33	28235.29	1.58	0.03
48	Gymnema sylvestre	22.22	5000.00	22500.00	1.53	0.03
49	Hyptis suaveolens	76.67	41888.89	54637.68	7.54	0.09
50	Imperata cylindrica	4.44	1666.67	37500.00	0.95	0.02
51	Indigofera astragalina	3.33	1111.11	33333.33	0.79	0.02
52	Justicia prostrata	6.67	1666.67	25000.00	0.79	0.02
53	Leea macrophylla	16.67	3333.33	20000.00	1.16	0.02
54	Leucas aspera	16.67	1888.89	11333.33	0.85	0.02
55	Leucas lanata	1.11	111.11	10000.00	0.22	0.01

56	Lindernia ciliata	1.11	222.22	20000.00	0.40	0.01
57	Nyctanthus arbor-tristis	20.00	3666.67	18333.33	1.25	0.02
58	Oxalis debilis	8.89	1333.33	15000.00	0.64	0.01
59	Rungia elegans	17.78	3111.11	17500.00	1.12	0.02
60	Rungia pectinata	6.67	1666.67	25000.00	0.79	0.02
61	Sida acuta	18.89	4888.89	25882.35	1.49	0.03
62	Solanum nigrum	15.56	2222.22	14285.71	0.91	0.02
63	Spilanthus calva	13.33	2222.22	16666.67	0.89	0.02
64	Tacca leontopetaloides	1.11	111.11	10000.00	0.22	0.01
65	Tribulus terrestris	10.00	1333.33	13333.33	0.65	0.01
66	Tridax procumbens	8.89	1333.33	15000.00	0.64	0.01
67	Urgenia indica	3.33	1111.11	33333.33	0.79	0.02
68	Vernonia cinerea	11.11	3000.00	27000.00	1.09	0.02
			371333	**1674936**	**300.00**	**1.77**

6.4 FAUNAL DIVERSITY

A list of 59 wild animals and reptiles are observed during the field survey. The scientific name of the faunal species, english and hindi names are given in the following Table - 15.

Table - 15 : List of Wild Animals and Birds Sited During the Survey

S. No.	SCIENTIFIC NAME	ENGLISH NAME	HINDI NAME
1.	*Acridotheres ginginianus*	Jungle myna	Jungli myna
2.	*Acridothers tristis*	Indian Myna	Myna
3.	*Bubo zeylonensis*	Brown fish owl	Oollu
4.	*Bungarus bungarus*	Banded krait	Krait
5.	*Cacomantis merulinus*	Cuckoo	Cuckoo
6.	*Calotes versicolor*	Garden lizard	Garden lizard
7.	*Canis aureus*	Jackal	Shiar
8.	*Capella gallinago*	Chaha	Suipe
9.	*Caprimulgus asiaticus*	Common Indian nightjar	Chappak
10.	*Carvus splendens*	House crow	Kowwa
11.	*Clamator jacobinus*	Pied crested cuckoo	Cuckoo
12.	*Columba livia*	Rock pigeon	Kabutar
13.	*Copschus saularis*	Magpie robin	Robin
14.	*Coracias benghalensis*	Rolier Blue fay	Neelkanth
15.	*Corvus macrorhynchos*	Jungle crow	Jungle Kowwa

16.	*Coturnix coturnix*	Grey quail	Bater
17.	*Dendroccopos mahrattensis*	Wood peckar	Katphora
18.	*Dinopium benghalense*	Golden backed wood pecker	Katphora
19.	*Eudynamys scolopacea*	Koel	Koel, Kokila
20.	*Francolinus francolinus*	Black partridge	Kalateetar
21.	*Francolinus pictus*	Painted parteridge	Titar
22.	*Francolinus pondicerianus*	Grey partridge	Safed teetar
23.	*Funambulus palmarum*	Squirrel	Gilhari
24.	*Gallus De sonneralti*	Grey jungle fowl	Janglimurgi
25.	*Gallus gallus*	Red jungle fowl	Janglimurgi
26.	*Gyps bengalensis*	Vulture Bengle	Gidha
27.	*Halcyon pileata*	Black capped kingfisher	Kingfisher
28.	*Halcyon smyrnensis*	White breasted kingfisher	Kingfisher
29.	*Herpestes auropunctatus*	Mongoose	Neola
30.	*Hyaena hyaena*	Hyaena	Lakkarbagha
31.	*Hystrix leucura*	Porcupine	Sehi
32.	*Lonchura malabarica*	White throated munia	White munia
33.	*Lonchura Malacca*	Black headed munia	Black munia
34.	*Lupus rufcaudatus*	Hare	Khargosh
35.	*Muntjak muticas*	Barking deer	Ghutari
36.	*Naja naja*	Cobra	Cobra
37.	*Nectarinia asiatica*	Purple sun bird	Sun bird
38.	*Nephron percnopterus*	White scavenger vulture	Safed Gidha
39.	*Orthotomus seetorius*	Tailor bird	Tailor bird
40.	*Passer domesticus*	House sparrow	Gorya
41.	*Pavo cristatus*	Peafowl peacock	Mor
42.	*Perdicula asiatica*	Jungli bush quail	Lowwa
43.	*Perdicula asiatica*	Jungle bush quail	Quail
44.	*Petronia xanthocollis*	Yellow throat sparrow	Jangli chiai
45.	*Ploceus phliippinus*	Baya (Weaver bird)	Baya
46.	*Presbytis entellus*	Langur monkey	Langur
47.	*Pterocles exustus*	Sand grose common	Sand grose
48.	*Pycnontus cafer*	Red vented bulbul	Bulbul
49.	*Pycnontus jocosu*	Red whiskered bulbul	Bulbul
50.	*Saxicoloides fulicata*	Indian robin	Robin
51.	*Streptopelia chinensis*	Water hen	Jalmurgi
52.	*Streptopelia chinunsis*	Spotted Dove	Fakhta
53.	*Streptopelia decaocto*	Ringed dove	Fakhta
54.	*Sturnus pagodarum*	Brahyminy myna	Myna
55.	*Sus scrofa*	Indian wild boar	Suar
56.	*Treron phoenicoptera*	Green pigeon	Harial
57.	*Turdoides caudatus*	Jungle Babbler	Jungle Babbler
58.	*Turdoides striatus*	Common Babbler	Common Babbler
59.	*Varanus bengalensis*	Indian monitor (Goh)	Goh

6.4 IMPORTANT MEDICINAL PLANTS

Medicinal plants used by different tribal group nearby different sacred groves are also documented. A list of medicinal plants used for particular ailments was prepared. The **Table - 16** reveals that the tribes for any specific ailment used many species and sometimes one species were used for one or more ailments depending upon the availability of the particular species in that locality. As per table, 2 species were used as abortifacient, 5 species as antidote to snake bites, 7 species as antipyretic, 4 species as antiseptic, 5 species as Aphrodisiac, 4 species to cure asthma, 14 species as having astringent properties, 2 species for enhancing memory and as a brain tonic, 5 species as carminative, 3 species in cathartic, 4 species in cough and cold 3 sipecies in demulcent, 8 species as diabetes, 10 species in diarrhaea and dysentery, 9 species as diuretic 4 species as febrifuge, 2 species in scabies, 9 species in jaundice, 2 species for kidney stones, 10 species as laxative, 1 species to cure malnutrition, 13 species in rheumatism, 12 species for skin diseases and 2 species for throat infections, 4 species in ulcer and 3 species for venereal disease. 5 species are for worm problems.

Moreover one species each is used by the tribes for ailments such as eye problems, emmenagogue, malarial fever cough, tumor, leucoderma, urinary complaints, sterility, hair promotion, gonorrhea, syphilis, vermifuge, ulcer and plage as a sedative. Thus it can be seen that these people rely heavily on medicinal plants to cure them from fever to cancer. However, the application of these medicinal plants is not revealed by these tribesmen as they do not want their inherited knowledge to be known by the outside world.

Table – 16: Uses of Important Medicinal Plants as per Particular Ailments

Aliments	Botanical Name	Local Name
Abortifacient	*1 Plumbago zeylanica* L. *2 Gloriosa superba* L.	Chitrak Kalihari
Antidote	*1 Colocasia Indica* L. *2 Indigofera oblongifolia* Forsk. *3 Peristrophe bicalyculata* (Retz.)Nees. *4 Antidesma diandrum* (Roxb) Roth. *5 Eulaliopsis binata* (Retz.) C.E. Hubb *6 Pennisetum alopecurus* (Steud.) *7 Uraria picta* (Jacq) Desv. ex DC.	Jangli – Arbi - - Khatta- amthi Soom – Ghans Gangerua Patvan
Antipyretic	*1 Swertia aungustifolia* Buch. *2 Careya herbacea* *3 Aristolochia elegans* Mast. *4 Adhatoda vasica* Nees *5 Abutilon glaucum* Sw. *6 Hemidesmus indicus* (L.)R. Br. *7 Agave sisslana* Perr.	Chirayata Bhui – Kumhi Mushti Adusa Kakai – Pandai Anantmul Ketki
Antiseptic	*1 Sphaeranhthus indicus* L. *2 Tectona grandis* L.F. Suppl. *3 Chloroxylon swietenia* DC. *4 Aristolochia indica* Linn	Gorakh – Mundi Sagoun Bhirra Easwarmool
Aphrodisiac	*1 Asparagus racemosus* Willd. *2 Mucuna pruriens* (L.) DC. *3 Flemingia strobilifera* (L.)R. Br.	Shatavar Kiwanch Bhaisakand Safed

	4 Chlorophytum tuberosum (Roxb) Baker *5 Bridelia retusa* Spreng	Safed – Musli Kasai
Asthma	*1 Achyranthes aspera* L. *2 Curcuma caesia* Roxb. *3 Eranthemum purpurascens* Nees. *4 Adha teda vasica* Nees	Chirchira Kalihaldi Ban-Tulsi Adusa
Astringent	*1 Wendlandia exserta* D.C. *2 Wrightia tinctoria* (Roxb.) R. Br. *3 Butea superba* Roxb. *4 Uraria lagopoids* Devs. *5 Tridax procumbens* Linn. *6 Dendrocalamus strictus* (Roxb.) Nees. *7 Bauhinia malabarica* Roxb. *8 Flemangia semialata* (Roxb.) ex Ail *9 Costus speciosus* (Koen) Smith. *10 Shorea robusta* Gaertn. *11 Elephantopus scaber* L. *12 Desmodium triflorum* (L.) DC. *13 Loranthus longifloris* Desr. *14 Gardenia latifolia* Ait. *15 Terminalia arjuna* (DC). Wight & Arn.	Tilwan Badi-Dodhi Palash-bel Gahua Patharchata Bans Amta Vanchana Keokand Sal Van-tambaku Van-Maithi Bandha Papde Arjun
Brain Tonic	*1 Centella asiatica* (L) Urban. *2 Evolvulus alsinoides* L.	Bramhi Shankh– puspi
Carminative	*1 Curcuma aromatica* L. *2 Ventilago denticulata* Tulasne. *3 Globba bulbifera* Roxb *4 Zingiber capitatum* Roxb *5 Zingiber cassumunar* Roxb. *6 Orozylum indicum* Vent.	Van- Haldi Papdebel Gangi Ganji Van-Adarak San-padhar
Cathartic	*1 Convolvulus arvensis* L. *2 Miliusa tomentosa* Hook f *3 Randia uliginosa* Linn.	Hirankhuri Keri Kalapathar
Cough	*1 Sonchus oleraceus Var. asper* *2 Bambusa arundinacea* (Retz.) Willd *3 Semecarpus anacardium* L.f. *4 Terminalia bellirica* – Roxb. Gartn.	- Katang- Bans Bhilma Baheda
Demulcent	*1 Cuscuta reflexa* Roxb. *2 Pueraria tuberosa* (Roxb. ex Willd.) DC. *3 Pencedanum nagpurense* Prain	Amerbel Patal- Kumhra Tejraj
Diabetes	*1 Tephrosia villosa* (L.) Pers *2 Desmodium heterocarpum* (L) DC *3 Pterocarpus marsupium* Schreb *4 Syzygium cuminii* Lin- Skeel. *5 Aegle marmelos* Lin. *6 Mangifera indca* – Lin. *7 Butea monosperma* – Lam *8 Gymnema sylvestre* Retz. R. Br.	Van – Kulthi Char Patti Bija Jamun Bel Aam Plas Gudmar
Diarrhoea	*1 Litsea sebifera* Pers. *2 Bauhinia racemosus* Lamk	Maida Amthi

	3 Aegle marmelos L. *4 Woodfordia fruticosa* (L.) Kurz. *5 Soymida febrifuga* (Roxb,) A Juss. *6 Holarrhena antidysentrica* Wall. *7 Randia uliginosa* DC *8 Euphorbia hirta* L. *9 Helicteres isora* L. *10 Diospyros melanoxylon*	Bel Surtili Rohan Kudo Safed-Katul Doodhi Marod – Phalli Tendu
Diuretic	*1 Mimosa pudica* L *2 Tribulus alatus* Del *3 Sida cordifolia* L. *4 Zizipfus rotundifolia* (Burm.f.)Wt. *5 Asplenium sp* *6 Boerhaavia diffusa* L. *7 Hibiscus sabdariffa* L. *8 Equisetum sp* *9 Stereospermum suaveolens* DC.	Lajwanti Ondhi Khareta Ghatol Sankar-Jata Pathor-Chata Aamadi Harjudi Ghata
Emmenagogue	*1 Abelmoschus manihot* L. *2 Pueraria tuberosa* DC	Van-Bhindi Ghorbal
Eye disease	*1 Urginea Indica* (Roxb). Kunth *2 Vitis latifolia* Roxb.	Janglipyaj Doker-Bel
Febrifuge	*1 Bryonopsis laciniosa* Auct. *2 Ehretia laevis* Roxb. *3 Adina cordifolia* Roxb. *4 Caesalpinia bonduc* (L) Roxb.	Shivlingi Datranga Haldu Gataran
Jaundice	*1 Cordia macleodii* (Griff) Hook. *2 Coccinia cordifolia* (L) *3 Citrullus colocynthis* Schrad. *4 Syzygium cuminii* (Linn) Skeel *5 Mangifera indica* Lin. *6 Phyllanthus urinaria* L. *7 Curculigo orchioides* Gaertn. *8 Trichosanthes tricuspidata* Lour. *9 Woodfordia fruticosa Kurz.*	Silvat Jangli-Kundru Kadu – Kachria Jamun Aam Bhui- Aonla Kalimusli Lal-Indrayan Dhawai
Kindney Stones	*1 Tephrosia purpurea (L.) Pers.* *3 Urginea indica (Roxb.) Kunth*	Van-Kulthi H Jangli Pyaj
Laxative	*1 Ficus hispida L.* *2 Dillenia pentagyna Roxb.* *3 Sterculia villosa Roxb.* *4 Terminalia bellerica (Gaertn.) Roxb.* *5 Sterculia urens Roxb.* *6 Phyllanthus emblica Gaertn.* *7 Teminalia chebula Retz.* *8 Lannea coromandelica (Houtt). Merr.* *9 Themeda quadrivalvis Linn.* *10 Cassia fistula Linn.*	Ghuia Kalle Kinhi Baheda Kullu Aonla Harra Gunja Ghonad Amaltas
Piles	*1 Urginea indica (Roxb). Kunth.* *2 Nelumbo nucifera Gaertn. Fruct.* *3 Dioscorea triphylla Roxb.*	Jangli- Piyaz Kamal Kadu-Kand

	4 Thalictrum foliolosum Blume. *5 Solanum xanthocarpum Sch. Wan.*	Mumri Bhat kataiya
Purgative	*1 Crotalaria ramosissima Roxb* *2 Abrus precatorius L* *3 Cassia occidentalis L.* *4 Ricinus communis L.* *5 Cassia tora L.* *6 Atylosia crassa Dalz.* *7 Solanum indicum Linn* *8 Solanum xanthocarpum-Sch.wen*	Van San Ratti Kasondhi Arandi Chakoda Vansemi Barhatta Bhatkataiya
Rheumatism	*1 Celastrus paniculatus Willd.* *2 Pavetta indica L.* *3 Boswellia serrata Roxb.* *4 Vitex negundo L.* *5 Smilax macrophylla Roxb.* *6 Semecarpus anacardium L.f.* *7 Terminalia tomentosa. Wight. & Arn.* *8 Sida cordifolia Linn* *9 Xanthium strumarium (L)* *10 Eclipta alba Hassk.* *11 Pergularia daemia (Forsk) Chiov.* *12 Nyctanthus arbor tristis L.* *13 Datura metel L.*	Orangul Narisa Salai Nirgundi Ram – datun Bhilwa Saja White Bala Gokhuroo Ghamra Dudhibel Harshaingar Dhatura Kala
Skin disease	*1 Crotalaria sericea Retz.* *2 Jatropha curcas L.* *3 Urginea indica Roxb. Kunth* *4 Mitragyna parvifolia (Roxb.) Korth.* *5 Bonnaya vermifolia* *6 Madhuca latifolia Roxb.* *7 Agave sisalana L.* *8 Vallaris heynei Spreng.* *9 Buchnannia lanzan Spreng.* *10 Schleich`era oleosa (Lour) Oken.* *11 Plumbago zeylancia Linn-* *12 Tamarindus indica (L)*	Van San Ratanjot Janaglipyaj Mundi Viskhapri Mahua Kataki Duddebel Char Kusum Chitrak Emli
Throat trouble	*1 Crotalaria verrucosa L.* *2 Solanum melongena L.*	Hardul Banbhata
Ulcer	*1 Randia dumentorum (Retz.) Poir* *2 Bombax ceiba DC* *3 Flemingia macrophylla (Willd.) Prain* *4 Alangium lamarchi. Thu.*	Mainhar Semal Bhaisatad Kala Kankey
Veneral disease	*1 Thespesia lampas (Cav.) Dalz.* *2 Cyperus rotundus L.* *3 Anogeissus latifolia (Roxb). Wall*	Van-Kapas Gangaua Dhawa
Worms	*1 Embelia robusta Cl.* *2 Ficus microcarpa L.* *3 Dioscorea pentaphylla L.* *4 Bauhinia variegata L.* *5 Cucumis trigonus Roxb.*	Bibidang Tada Kadu Kand Rela Indrawan

Anaemia **Cooling** **Emollient** **Growth of hair** **Leprosy** **Leucorrhoea** **Malarial faver** **Nutrient** **Sedative** **Tonic** **Tumor** **Vermifuge** **Women Sterility**	*1 Olax scandens Roxb.* *2 Curcuma angustifolia Roxb.* *3 Adiantum sp* *4 Lawsonia alba Lamk.* *5 Schrebera swietenioides Roxb.* *6 Daedalacanthus purpurascens T. Anders* *7 Andrographis paniculata (Burm.F) Wall.* *8 Dioscorea daemona Roxb.* *9 Xanthium strumarium Roxb.* *10 Dioscrea bulbifera L.* *11 Butea monosperma (Lam). Toub.* *12 Thymus serphyllum L.* *14 Plumbago zeylancia Linn*	Harduli Tikhur Hansraj Mehndi Harakatul Ban-Tulsi Bhui-Neem Bechandi Gokhru Jarda-Kand Palash Van-Ajvine Chitrak
Pluge	*1 Oxalis cornicutata Linn*	Amroolsag

6.5 STATUS OF ENDEMIC, RARE AND THREATENED MEDICINAL PLANTS

Inventory of endemic, rare and threatened medicinal plants have been prepared on the bases of seasonal survey and available field informations. IUCN red list category and threat assessment methods for evaluating the status of medicinal plants have been followed as per threat area. Data revealed that no endemic medicinal plant species were identified from the sacred groves. 21 vulernable species, 5 endangered species, 2 near threatened species was analysed from the collected data. Status of endemic, rare and threatened medicinal plants in all 30 Sacred Groves are analysed and presented in the following (Table – 17) with name of plant species, family and threat status of the species. Data sheets of all threatened species have been prepared.

Table – 17: Red list categories of Medicinal Plants

S. No.	NAME OF SPECIES	FAMILY	THREAT STATTUS
25.	*Amorphophallus paeoniofolus (Denn) Nicol*	Araceae	VU
26.	*Andrographis peniculata (Burm. F) Wall.*	Acanthaceae	VU
27.	*Aristolochia bracteolate Lam.*	Aristolochiaceae	VU
28.	*Bacopa monnieri (L) Wettst.*	Scrophulariaceae	VU
29.	*Bauhinia vahlii W. & A.*	Caesalpiniaceae	NT
30.	*Centella asiatica (L) Urban.*	Apiaceae	VU
31.	*Ceropegia hirsute W. & A.*	Asclepiadaceae	EN
32.	*Chlorophytum tuberosum Baker.*	Liliaceae	VU
33.	*Clerodendrum serratum (L) Moon*	Verbenaceae	EN
34.	*Costus speciosus L.*	Zingiberaceae	VU
35.	*Curcuma zedoaria (Christ) Roscoe*	Zingiberaceae	VU
36.	*Dillenia pentagyna Roxb.*	Dilleniaceae	VU
37.	*Dioscoria bulbifera L.*	Dioscoreaceae	VU
38.	*Embelia tesjeriam-cotton*	Euphorbiaceae	VU
39.	*Equisetum ramosissimum Desf.*	Equisetaceae	EN
40.	*Gloriosa superba L.*	Liliaceae	VU
41.	*Gymnema sylvestre R.Br.*	Asclepiadaceae	VU
42.	*Litsea glutinosa (Lour) C. B. Robins*	Lauraceae	VU

43.	*Marsdenia tenacissima (Roxb.) Monn.*	Asclepiadaceae	VU
44.	*Nervilia plicata (Andr.) Schlechter*	Orchidaceae	EN
45.	*Peuraria tuberosa (Roxb. ex Willd.) DC.*	Fabaceae	EN
46.	*Phyllanthus emblica Gaertn*	Euphorbiaceae	VU
47.	*Pterocarpus marsupium Roxb.*	Fabaceae	VU
48.	*Rubia cordifolia L.*	Rubiaceae	VU
49.	*Tacca leontopetaloides (L) Kuntze*	Taccaceae	NT
50.	*Thalictrum foliolosum DC.*	Ranunculaceae	VU
51.	*Uraria picta (Jacq) Desv.ex.DC*	Fabaceae	VU
52.	*Urginea indica (Roxb.) Kunth.*	Liliaceae	VU

DATA SHEET - 1

1	**Botanical name**		***Amorphophallus paeoniofolus* (Dennst.) Nicol**							
2	**Basionys/Synonym(s)**		*Amorphophallus campanulatus* (Roxb.)Blume ex Decne							
3	**Family**		**Araceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Jungli suran							
6	**Habit**		Herb							
7	**Habitat**		Marshy and shady place							
8	**Original global distribution**									
9	**Current regional distribution**		• Dewas (Kusmania), • Indore (Manpur), • Khandwa (Kalibhit), • Khangore (Sirwel), • Balaghat (Supkhar), • Balaghat (Harrabhat), • Mandla (Padmi).							
10	**Elevation range (M)**		610							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**				
				√						
11 a	**Time/Rate(Year/generation)**		10 years							
12	**Extend of occurrence (EOO)**		Km^2	12000						
13	**Area of occurrence (AOO)**		Km^2	300						
14	**No. of location /Sub-Population**		Three							
14 a	**Data quality**		2,3,4							
15	**Threads**		Hm.							
16	**Trade**	**Names**								
		Level(S)	Local	√	Regional	√	National		Global	
		Part traded								
		Effect of population								
		Data quality								
17	**Other comments**		Plant in useful in throat inflammations & respiratory complaint.							
18.	**Recent field of studies**		• Sheikh. Muzaffar (Khandewa) 2004-05, • Dr. Sundip Ray (Khandewa) 2004-05, • Dr. Sundip Ray (Indore) 2004-05, • Mrs. Veena Satya.							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**VU**							
20.	**% of global distribution**		5%							

21.	**Existing conservation measure**	
22.	**Is the presence of taxon continuous with neighboring areas**	Yes
23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	
	a. i*n-Situ*	√
	b. *ex–Situ*	
	i) Cultivation	
	ii) Levels of difficulty in propagation / cultivation	
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 2

1	**Botanical name**		***Andrographis paniculata* (Burmf.) Wall. ex Nees**						
2	**Basionys/Synonym(s)**								
3	**Family**		**Acanthaceae**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Karuchirayata, Kalmegh, Bhuineem						
6	**Habit**		Herb						
7	**Habitat**		Tropical deciduous forest						
8	**Original global distribution**		India, tropical countries						
9	**Current regional distribution**		Through out the state						
10	**Elevation range (M)**		300-900						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11 a	**Time/Rate(Year/generation)**		10 years						
12	**Extend of occurrence (EOO)**		Km^2	<20,000					
13	**Area of occurrence (AOO)**		Km^2	<2,000					
14	**No. of location /Sub-Population**		Many						
14 a	**Data quality**		3,4						
15	**Threads**		E (Edaphic factors), Hm (Harvest for medicine), T (Trade), Sd (Drought)						
16	**Trade**	**Names**							
		Level(S)	Local	√	Regional	√	National	√	Global	√
		Part traded	Whole plant						
		Effect of population	Declining						
		Data quality	3,4						
17	**Other comments**		Whole plant in useful. Therefore sustainable harvest is proposed.						
18.	**Recent field of studies**		• Ministry of Health and Family welfare, • Govt. of India, • DISM, • WHO-Demand study for selected medicinal plants, 2001-2002.						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**VU**						
20.	**% of global distribution**		1%						
21.	**Existing conservation measure**		-						
22.	**Is the presence of taxon continuous with neighboring areas**		Yes						

23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	Biotic impact, Regeneration/Sustainable harvesting technique.
	a. i*n-Situ*	
	b. *ex–Situ*	
	i) Cultivation	Under trials
	ii) Levels of difficulty in propagation / cultivation	1 (Least difficult)
25	**Existing cultivation**	An exsitu cultivation by the farmers have been started
26.	**Previous assessment**	Yes. Previous CAMP

DATA SHEET – 3

1	**Botanical name**		***Aristolochia bracteolata* Lam**						
2	**Basionys/Synonym(s)**		*Aristolochia bracteata* Retz.						
3	**Family**		**Aristolochacea**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Kidamar, Batakhabel, Mukka bel.						
6	**Habit**		Herbaceous perennial climber						
7	**Habitat**		Wasteland						
8	**Original global distribution**		India, Ceylon, Arabia, Tropical Africa.						
9	**Current regional distribution**		• Bhopal (Shyamla Hills), • Raisen (Chiklod).						
10	**Elevation range (M)**		400-600						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11 a	**Time/Rate(Year/generation)**		10 years						
12	**Extend of occurrence (EOO)**		Km^2	>2000					
13	**Area of occurrence (AOO)**		Km^2	>200					
14	**No. of location /Sub-Population**		2 District						
14 a	**Data quality**		2, 4						
15	**Threads**		Hm, T						
16	**Trade**	**Names**	Kidamar						
		Level(S)	Local		Regional	√	National		Global	
		Part traded	Leaves fruits and roots						
		Effect of population	Declining						
		Data quality	2, 4						
17	**Other comments**		The plant is pungative and anti-helminitic. Dried root powder is referred as arbortifacient, antidote. Leaves powered with caster oil used for eczema and snakebite.						
18.	**Recent field of studies**		• Department of Botany, • Sarojini Naidu Govt. girls P.G. College, • Shivaji Nagar, Bhopal 2005.						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**VU**						
20.	**% of global distribution**		<2%						
21.	**Existing conservation measure**								
22.	**Is the presence of taxon continuous with neighboring areas**		Yes						

23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	
	a. i*n-Situ*	√
	b. *ex–Situ*	Tissue Culture
	i) Cultivation	Should be cultivated
	ii) Levels of difficulty in propagation / cultivation	
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 4

1	**Botanical name**		***Bacopa monnieri* (L.) Wettst.**							
2	**Basionys/Synonym(s)**		*Lysimachia monnieri* L**.**							
3	**Family**		**Scrophulariaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Bramhi, Jal Brachmi, Jal Neem.							
6	**Habit**		Prostrate herb, rooting at the nodes.							
7	**Habitat**		Marshy wet places near lakes and ponds.							
8	**Original global distribution**		Throughout India, Ceylon, Malaya and all the tropical/sub tropical region of the world.							
9	**Current regional distribution**		• Bhopal (Lower lake 74 Baungalows), • Vidisha (Lateri).							
10	**Elevation range (M)**		400-600							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**				
				√						
11 a	**Time/Rate(Year/generation)**		10 years							
12	**Extend of occurrence (EOO)**		Km^2	>2000						
13	**Area of occurrence (AOO)**		Km^2	>200						
14	**No. of location /Sub-Population**		4 District							
14 a	**Data quality**		2, 4							
15	**Threads**		Hm							
16	**Trade**	**Names**	Bramhi							
		Level(S)	Loca l		Regiona l		Nation al	√	Global	
		Part traded	Whole plant							
		Effect of population	Declining							
		Data quality	2, 4							
17	**Other comments**		The stalks and leaves used medicinally in rheumatism, gonorrheal and also taken as nerving tonic.							
18.	**Recent field of studies**		• Department of Botany, • Sarojini Naidu Govt. girls P.G. College, • Shivaji Nagar, Bhopal 2005.							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**VU**							
20.	**% of global distribution**		<1%							
21.	**Existing conservation measure**									
22.	**Is the presence of taxon continuous with neighboring areas**		Yes							

23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	
	a. i*n-Situ*	√
	b. *ex–Situ*	Tissue Culture, vegetation propagation by cutting.
	i) Cultivation	Should be cultivated
	ii) Levels of difficulty in propagation / cultivation	
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 5

1	**Botanical Name**		***Bauhinia vahlii* Wt. & Arn.**							
2	**Basionys/Synonym(s)**		*Phanera vahlii* (Wt. & Arn.) Benth.							
3	**Family**		**Caesalpiniaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Mahul, Mohalla, Siali.							
6	**Habit**		Liana (woody climber)							
7	**Habitat**		Mixed forest, Sal forest.							
8	**Original global distribution**		Throughout Madhya Pradesh.							
9	**Current regional distribution**		• Rewa (Pachmattha), • Damoh (Rani Durgavati Sanctuary), • Sagar (Bandri, Rehli, Garhpara).							
10	**Elevation range (M)**		400-800							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**				
			√							
11 a	**Time/Rate(Year/generation)**		3 Generations							
12	**Extend of occurrence (EOO)**		Km^2	>22000						
13	**Area of occurrence (AOO)**		Km^2	>2000						
14	**No. of location /Sub-Population**		100-500							
14 a	**Data quality**		2, 3							
15	**Threads**		H, Hp, L, Lf, Lp, Sf, Tp.							
16	**Trade**	**Names**	Mahil							
		Level(S)	Local	√	Regional	√	National		Global	
		Part traded	Leaf, root, stem							
		Effect of population	Declining							
		Data quality	2, 3							
17	**Other comments**		Vermifuge. Fruits used as ashrodie. Seeds in dysentery and stomachache. Bark used as fiber making rope.							
18.	**Recent field of studies**		• P.C. Dubey & A.P. Tiwari, • Vindhyan Medicinal plants 2005, • Department of forest, Madhya Pradesh.							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**NT**							
20.	**% of global distribution**									
21.	**Existing conservation measure**		Nil							
22.	**Is the presence of taxon continuous with neighboring areas**									

23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	
	a. i*n-Situ*	√
	b. *ex–Situ*	
	i) Cultivation	√
	ii) Levels of difficulty in propagation / cultivation	Regeneration problem
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 6

1	**Botanical name**		***Centella asiatica* (L.) Urban.**							
2	**Basionys/Synonym(s)**		*Hydrocoptyle asiatica* L.							
3	**Family**		**Apiaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Bramhi, Mandukparni, Brahm manduki.							
6	**Habit**		Slender herbaceous, rooting at the nodes.							
7	**Habitat**		Moist places..							
8	**Original global distribution**		Throughout India, Base of Himalaya, Ceylon, Malaya and all the tropical/sub tropical region of the world.							
9	**Current regional distribution**		• Bhopal (Moti Maszid), • Raisen (Halali Dam), • Bhopal (Bhadbhada).							
10	**Elevation range (M)**		400-600							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**		**30 to 49%**		**50 to 80%**		**>80%**	
					√					
11 a	**Time/Rate(Year/generation)**		10 years							
12	**Extend of occurrence (EOO)**		Km^2	>2000						
13	**Area of occurrence (AOO)**		Km^2	>200						
14	**No. of location /Sub-Population**		3 District							
14 a	**Data quality**		2, 4							
15	**Threads**		Hm, T							
16	**Trade**	**Names**	Bramhi							
		Level(S)	Local		Regional	√	National	√	Global	
		Part traded	Whole plant							
		Effect of population	Declining							
		Data quality	2, 4							
17	**Other comments**		As brain tonic. In skin diseases, Trberculosis, Anemia, Asthma, Madness, Cholera, heat effect, wound healing.							
18.	**Recent field of studies**		• Department of Botany, • Sarojini Naidu Govt. girls P.G. College, • Shivaji Nagar, Bhopal 2005.							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**VU**							
20.	**% of global distribution**		<2%							
21.	**Existing conservation measure**									
22.	**Is the presence of taxon**		Yes							

	continuous with neighboring areas	
23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	
	a. i*n-Situ*	Management needed.
	b. *ex–Situ*	Vegetative propagation.
	i) Cultivation	
	ii) Levels of difficulty in propagation / cultivation	
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 7

1	nical **Botanical name**		***Ceropegia hirsuta* Wt. & Arn**..							
2	**Basionys/Synonym(s)**		*Ceropegia vincaefolia* Hook.							
3	**Family**		**Asclepiadaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Basia Kand							
6	**Habit**		Climbers							
7	**Habitat**		Rocky places place in sal forests, scrub jungle along Cassia Sp.							
8	**Original global distribution**									
9	**Current regional distribution**		• Sagar (Patharia hills), • Anuppur (Anarkantle).							
10	**Elevation range (M)**		600							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**		**30 to 49%**		**50 to 80%**		**>80%**	
							√			
11 a	**Time/Rate(Year/generation)**		10 years							
12	**Extend of occurrence (EOO)**		Km^2	>3000						
13	**Area of occurrence (AOO)**		Km^2	>300						
14	**No. of location /Sub-Population**		3-4							
14 a	**Data quality**		2, 3, 4							
15	**Threads**									
16	**Trade**	**Names**								
		Level(S)	Loca l	√	Regiona l		Nation al		Global	
		Part traded	Leaves, young fruits and tubers.							
		Effect of population	Declining							
		Data quality								
17	**Other comments**		Forest clearing and harvesting are the main threads to this species. Antidote for snake bite.							
18.	**Recent field of studies**									
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**EN**							
20.	**% of global distribution**		5%							
21.	**Existing conservation measure**		Nil							
22.	**Is the presence of taxon continuous with neighboring areas**		Yes							
23.	**Are the outside population also under similar threads /pressure**		Yes							

24.	**Recommendations**	
	Research /Management	Biology and Reproductive ecology
	a. i*n-Situ*	√
	b. *ex–Situ*	√
	i) Cultivation	
	ii) Levels of difficulty in propagation / cultivation	Not tested
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 8

1	**Botanical name**		***Chlorophytum tuberosum* Baker.**							
2	**Basionys/Synonym(s)**		*Anthericum tuberosum* Roxb.Fl.							
3	**Family**		**Liliaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Safed musli, Dhauli musli, Sweta musli .							
6	**Habit**		Herb							
7	**Habitat**		Open mixed forest, Teak forest.							
8	**Original global distribution**		Paleotropic.							
9	**Current regional distribution**		• Hoshangabad, • Khandwa, • Indore, • Sagar, • Bhopal.							
10	**Elevation range (M)**		150-850							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**				
				√						
11	**Time/Rate(Year/generation)**		10 year							
12	**Extend of occurrence (EOO)**		Km^2	>20000						
13	**Area of occurrence (AOO)**		Km^2	>2000						
14	**No. of location /Sub-Population**		>1,000							
14 a	**Data quality**		2, 3,4							
15	**Threads**		H, Hp, L, Lf, Lp, Sf, Tp.							
16	**Trade**	**Names**	Mahil							
		Level(S)	Local	√	Regional	√	National		Global	
		Part traded	Tuber							
		Effect of population	Declining (30% decline in last 10 year ,49 % decline predicted in the next 10 year)							
		Data quality	2, 3,4							
17	**Other comments**		• Wild presence of C. *borivillianum* needs to be confirmed by field survey, • Recent use in carpet and tobacco industry is increase pressure on its wild population. .							
18.	**Recent field of studies**		• Oudhia P.2003 WWW.Botanical.Com • Reporton standardization of harvest practices of medicine plants _IIFM publication, 2001&2002.							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**VU A2cd**							
	- IUCN		**NT**							
20.	**% of global distribution**		15%							
21.	**Existing conservation measure**		Nil							

22.	**Is the presence of taxon continuous with neighboring areas**	Yes
23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	Filed survey ,Trade studies regeneration studies needs to be undertaken Hm (Habitat management).
	a. i*n-Situ*	√
	b. *ex–Situ*	
	i) Cultivation	√
	ii) Levels of difficulty in propagation / cultivation	1(Least difficult)
25	**Existing cultivation**	Large scale
26.	**Previous assessment**	Nil

DATA SHEET – 9

1	**Botanical name**		***Clerodendrum serratum* (L) Moon**							
2	**Basionys/Synonym(s)**		-							
3	**Family**		**Verbenaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Baranghi (H)							
6	**Habit**		Shrub							
7	**Habitat**		Tropical Most deciduous forests.							
8	**Original global distribution**		Indo- malesia,S.Africa to Madagascar.							
9	**Current regional distribution**		• Jabalpur, • Amarkantak, • Indore, • Patalkoat.							
10	**Elevation range (M)**		900-1,300							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**				
					√					
11	**Time/Rate(Year/generation)**		3 Generation							
12	**Extend of occurrence (EOO)**		Km^2	>20,000						
13	**Area of occurrence (AOO)**		Km^2	>2,000						
14	**No. of location /Sub-Population**		Kanger valley, Bailladila Amarkantak, Pachmari plateau.							
14 a	**Data quality**		3, 4							
15	**Threads**		Hm, Lp, Tp.							
16	**Trade**	**Names**	Baranghi							
		Level(S)	Local	√	Regional	√	National		Global	
		Part traded	Roots, Bark, Leaves							
		Effect of population	Declining							
		Data quality	3, 4							
17	**Other comments**		• In M.P and Chattisgarh the species is found in moist forest of the hills.							
18.	**Recent field of studies**									
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**EN**							
20.	**% of global distribution**		<1%							
21.	**Existing conservation measure**		Nil							
22.	**Is the presence of taxon continuous with neighboring areas**		Yes							
23.	**Are the outside population also under similar threads**		Yes							

	/pressure	
24.	**Recommendations**	
	Research /Management	Regeneration studies Control destructive harvesting seed biology and propagation studies.
	a. i*n-Situ*	Gandhi & Salewara.
	b. *ex–Situ*	
	i) Cultivation	Seed and stem cutting
	ii) Levels of difficulty in propagation / cultivation	2 (Moderately difficult)
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 10

1	**Botanical name**		***Costus speciosus* (J. Koenig ex Retz.) Sm.**							
2	**Basionys/Synonym(s)**		*Banksea speciosa* J. Koenig							
3	**Family**		**Costaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Keokanda							
6	**Habit**		Herb							
7	**Habitat**		Sal forest and deforested lands in shady places							
8	**Original global distribution**		India, SriLanka, SE Asia, Africa, Australiya.							
9	**Current regional distribution**		• Balaghat, • Hoshangabad, • Damoh, • Sidhi, • Rewa, • Mandla, • Seoni, • Dindori.							
10	**Elevation range (M)**		200-1000							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**				
				√						
11	**Time/Rate(Year/generation)**		10 Years							
12	**Extend of occurrence (EOO)**		Km^2	>20,000						
13	**Area of occurrence (AOO)**		Km^2	>2,000						
14	**No. of location /Sub-Population**		Wide distribution.							
14 a	**Data quality**		3, 4							
15	**Threads**		Hm, Tp, Hf.							
16	**Trade**	**Names**	Keo-kanda							
		Level(S)	Local	√	Regional	√	National	√	Global	
		Part traded	Rhizome							
		Effect of population	Declining							
		Data quality	3, 4							
17	**Other comments**		Seed information become scanty due to early harvesting.							
18.	**Recent field of studies**		Tiwari *et.al.*2002-2003 Shrivastava, O.L. & Sumita Shrivatava, 1997-99 SFRI publication, 1990-2000.							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**VU**							
20.	**% of global distribution**		<5%							
21.	**Existing conservation**		Nil							

	measure	
22.	**Is the presence of taxon continuous with neighboring areas**	Yes
23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	Multiplication in protected area, Sustainable harvesting techniques, Seed biology, Growth behavior.
	a. i*n-Situ*	Mandla.
	b. *ex–Situ*	
	i) Cultivation	Experimentation on agronomy as well as fertilizers.
	ii) Levels of difficulty in propagation / cultivation	1 (Least difficult)
25	**Existing cultivation**	Yes (<1%)
26.	**Previous assessment**	

DATA SHEET – 11

1	**Botanical name**		***Curcuma zedoaria* (Christ.) Roscoe.**							
2	**Basionys/Synonym(s)**		*Amomum zedoria*							
3	**Family**		**Zingiberaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Narakchur							
6	**Habit**		Annual shrub							
7	**Habitat**		Undergrowth in moist deciduous forests							
8	**Original global distribution**		Paleotropic							
9	**Current regional distribution**		• Betul, • Hoshangabad, • Chindwara, • Shahdol.							
10	**Elevation range (M)**		Up to 600							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**				
				√						
11	**Time/Rate(Year/generation)**		10 Years							
12	**Extend of occurrence (EOO)**		Km^2	>20,000						
13	**Area of occurrence (AOO)**		Km^2	>2,000						
14	**No. of location /Sub-Population**		Fragmented.							
14 a	**Data quality**		2, 3, 4							
15	**Threads**		Hm, Tp, Sf, Sd.							
16	**Trade**	**Names**	Narakchur							
		Level(S)	Local	√	Regional	√	National	√	Global	√
		Part traded	Tuber (Oil)							
		Effect of population	Declining (Over 80% decline in last 30 years.)							
		Data quality	2, 3, 4							
17	**Other comments**		-							
18.	**Recent field of studies**		Oudhai, P. 2003. **www.botanical.com**							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**VU**							
20.	**% of global distribution**		<1%							
21.	**Existing conservation measure**		Nil							
22.	**Is the presence of taxon continuous with neighboring areas**		Yes							
23.	**Are the outside population also under similar threads /pressure**		Yes							

24.	**Recommendations**	
	Research /Management	Hm (Habitat management.)
	a. i*n-Situ*	• Jagdalpur (Near), • Kewchp-Lamni (Bilaspur).
	b. *ex–Situ*	-
	i) Cultivation	2
	ii) Levels of difficulty in propagation / cultivation	1 (Least difficult)
25	**Existing cultivation**	Nil
26.	**Previous assessment**	

DATA SHEET – 12

1	**Botanical name**		***Dillenia pentagyna* Roxb.**							
2	**Basionys/Synonym(s)**		-							
3	**Family**		**Dilleniaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Aggai, Kallai, Kalle.							
6	**Habit**		Tree.							
7	**Habitat**		In valleys and high elevation.							
8	**Original global distribution**		Indo-Burma, Southern Asia, North Queans land.							
9	**Current regional distribution**		• Mandla (Kisli), • Mandla (Sarhi), • Betul (Khibrlsa), • Balaghat (Langi), • Balaghat (Udhatshar).							
10	**Elevation range (M)**		300- 600							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**				
				√						
11	**Time/Rate(Year/generation)**		3 Generations.							
12	**Extend of occurrence (EOO)**		Km^2	>20,000						
13	**Area of occurrence (AOO)**		Km^2	>2,000						
14	**No. of location /Sub-Population**		3							
14 a	**Data quality**		2, 3, 4							
15	**Threads**		Hm, Tp, Lf, Hp.							
16	**Trade**	**Names**	Kalle.							
		Level(S)	Loca l	√	Regiona l	√	Nation al		Global	
		Part traded	Leaves, Bark.							
		Effect of population	Declining							
		Data quality	2, 3, 4							
17	**Other comments**		Restricted mostly to protected area. Leaves used in bone fractures. Bark powder used in wound healing.							
18.	**Recent field of studies**		Pandey & Shrivastava 1996, Sharma 2004.							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**VU**							
20.	**% of global distribution**		<1%							
21.	**Existing conservation measure**		Nil							
22.	**Is the presence of taxon continuous with neighboring areas**		Yes							
23.	**Are the outside population**		Yes							

	also under similar threads /pressure	
24.	**Recommendations**	
	Research /Management	Hm, S, M, Lf.
	a. i*n-Situ*	√
	b. *ex–Situ*	
	i) Cultivation	Not known
	ii) Levels of difficulty in propagation / cultivation	Not known
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 13

1	**Botanical name**		***Dioscorea bulbifera*. L.**							
2	**Basionys/Synonym(s)**		*Dioscorea sativa* Thumb.							
3	**Family**		**Dioscoreaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Varahikand							
6	**Habit**		Climber							
7	**Habitat**		Dry mixed forest							
8	**Original global distribution**		India.							
9	**Current regional distribution**		Through out.							
10	**Elevation range (M)**		300-800							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**				
				√						
11	**Time/Rate(Year/generation)**		10 Years							
12	**Extend of occurrence (EOO)**		Km^2	>20,000						
13	**Area of occurrence (AOO)**		Km^2	>2,000						
14	**No. of location /Sub-Population**		Widely distributed.							
14 a	**Data quality**		2, 3, 4							
15	**Threads**		E, Hm, L, Tp.							
16	**Trade**	**Names**	Hf, S.							
		Level(S)	Local	√	Regional	√	National		Global	
		Part traded	Tubers							
		Effect of population	Declining							
		Data quality	2, 3, 4							
17	**Other comments**		It has high food value.							
18.	**Recent field of studies**		-							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**VU**							
20.	**% of global distribution**		<1%							
21.	**Existing conservation measure**		No							
22.	**Is the presence of taxon continuous with neighboring areas**		Yes							
23.	**Are the outside population also under similar threads /pressure**		Yes							

24.	**Recommendations**	
	Research /Management	S (Survey, search and find.), M (Monitoring).
	a. i*n-Situ*	• Bhopal, • Samarda, • Raigarh, • Mandla (Moti Nala), • Chinwara (Patalkot).
	b. *ex–Situ*	-
	i) Cultivation	-
	ii) Levels of difficulty in propagation / cultivation	2 (Moderately difficult)
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 14

1	**Botanical name**		***Embelia tsjeriam-cottam* DC.**							
2	**Basionys/Synonym(s)**		*Embelia robusta* C.B. Clarke non-Roxb.							
3	**Family**		**Myrsinaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Bailbirang, Vidayng, Vaividang.							
6	**Habit**		Shrub							
7	**Habitat**		In mixed deciduous forests							
8	**Original global distribution**		Indo Malayan region.							
9	**Current regional distribution**		Through out.							
10	**Elevation range (M)**		200-1000							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**		**30 to 49%**		**50 to 80%**		**>80%**	
					√					
11	**Time/Rate(Year/generation)**		3 Generations							
12	**Extend of occurrence (EOO)**		Km^2	>20,000						
13	**Area of occurrence (AOO)**		Km^2	>2,000						
14	**No. of location /Sub-Population**		>500 locations							
14 a	**Data quality**		2, 3, 4							
15	**Threads**		Hm, T, Sf, L.							
16	**Trade**	**Names**	Baibirang							
		Level(S)	Local	√	Regional	√	National	√	Global	√
		Part traded	Seeds							
		Effect of population	Declining							
		Data quality	2, 3, 4							
17	**Other comments**		Sustainable harvesting should be promoted.							
18.	**Recent field of studies**		• Asolkar, Kakkar & Chakre, 1965-1981. Glossary of Indian medicinal plants with active principles. Part 1., • MHFW & H, 2001-02, Vol. I.							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**NT**							
20.	**% of global distribution**		>30%							
21.	**Existing conservation measure**		-							
22.	**Is the presence of taxon continuous with neighboring areas**		Yes							
23.	**Are the outside population also under similar threads /pressure**		Yes							

24.	**Recommendations**	
	Research /Management	Hm (Habitat management.), S (Survey, search and find.)
	a. i*n-Situ*	Amarkantak.
	b. *ex–Situ*	-
	i) Cultivation	3
	ii) Levels of difficulty in propagation / cultivation	2 (Moderately difficult)
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 15

1	**Botanical name**		***Equisetum ramosissimum* Desf.**							
2	**Basionys/Synonym(s)**		*Equisetem debile* Roxb. Ex Vauch.							
3	**Family**		**Equisetaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Medju, Maringir							
6	**Habit**		Large herb							
7	**Habitat**		Shady damp areas, in sandy alluvial humus soil lower elevation.							
8	**Original global distribution**									
9	**Current regional distribution**		• Hoshangabad (Malakhedi), • Shahdol (Dughadhara, • Mandla (Mawai), • Rewa (Bouti).							
10	**Elevation range (M)**		300-800							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**		**30 to 49%**		**50 to 80%**		**>80%**	
							√			
11	**Time/Rate(Year/generation)**		10 Years							
12	**Extend of occurrence (EOO)**		Km^2	>20,000						
13	**Area of occurrence (AOO)**		Km^2	>2,000						
14	**No. of location /Sub-Population**		4							
14 a	**Data quality**		2, 3, 4							
15	**Threads**		E, Hm, L, Encroachment for cultivation. Collection for academic purposes.							
16	**Trade**	**Names**								
		Level(S)	Local		Regional	√	National	√	Global	
		Part traded	Whole plant, Rhizome and stem as teaching aid (Lab) material.							
		Effect of population	Declining							
		Data quality	2, 3, 4							
17	**Other comments**		Used as antidote for snake, scorpion and insect bites.							
18.	**Recent field of studies**		Upadhyaya *et al.* 2004, Sharma 2004, Masih 1994.							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**EN**							
20.	**% of global distribution**		<1%							
21.	**Existing conservation measure**		No							
22.	**Is the presence of taxon continuous with neighboring areas**		Yes							
23.	**Are the outside population**		Yes							

	also under similar threads /pressure	
24.	**Recommendations**	
	Research /Management	S, Lr, Hm, M.
	a. i*n-Situ*	√
	b. *ex–Situ*	Can be done
	i) Cultivation	Nil
	ii) Levels of difficulty in propagation / cultivation	Nil
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 16

1	**Botanical name**		***Glorisa superba* L.**						
2	**Basionys/Synonym(s)**		*Methonia superba* Lamk.						
3	**Family**		**Liliaceae**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Kalihari, Karkari, Langali, Glori lily.						
6	**Habit**		Climbing herb						
7	**Habitat**								
8	**Original global distribution**		Through out tropical Asia and Africa.						
9	**Current regional distribution**		• Hoshangabad, • Burhanpur, • Betul, • Moist district.						
10	**Elevation range (M)**		280-500						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11	**Time/Rate(Year/generation)**		10 Years.						
12	**Extend of occurrence (EOO)**		Km^2	>5,000					
13	**Area of occurrence (AOO)**		Km^2	>2,000					
14	**No. of location /Sub-Population**		18						
14 a	**Data quality**		2, 3, 4						
15	**Threads**		Hm, T, Sd, L, Sf.						
16	**Trade**	**Names**	Kalihari, Karkari, Langali.						
		Level(S)	Local	√	Regional	√	National	√	Global	√
		Part traded	Rhizome, Seeds.						
		Effect of population	Declining (10 % decrease in last 10 years; 20% decrease expected in next 10 years.)						
		Data quality	2, 3, 4						
17	**Other comments**		-						
18.	**Recent field of studies**		• A.K. Bahttacharya & Krishna Patra- MPMFP Federation publication, • Oudhai P. 2003. **www.botanical.com**						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**VU**						
20.	**% of global distribution**		<1%						
21.	**Existing conservation measure**		No substantial cultivation.						
22.	**Is the presence of taxon continuous with neighboring areas**		Yes						
23.	**Are the outside population**		Yes						

	also under similar threads /pressure	
24.	**Recommendations**	
	Research /Management	Hm (Habitat management.), S (Survey, search and find.), M (Monitoring).
	a. i*n-Situ*	-
	b. *ex–Situ*	-
	i) Cultivation	3
	ii) Levels of difficulty in propagation / cultivation	1 (Least difficult)
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 17

1	**Botanical name**		***Gymnema sylvestre* R. Br.**							
2	**Basionys/Synonym(s)**		*Periploca sylvestris* Retz.							
3	**Family**		**Asclepiadaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Gurmar, Merasingi.							
6	**Habit**		Large climber							
7	**Habitat**		In sal and mixed deciduous forests							
8	**Original global distribution**		Paleotropic.							
9	**Current regional distribution**		• Hoshangabad, • Chattarpur, • Betul, • Damoh, • Khandwa, • Jabalpur, • Narsinhpur, • Rewa, • Satar, • Sehore.							
10	**Elevation range (M)**		Up to 450							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**				
			√							
11	**Time/Rate(Year/generation)**		10 Years.							
12	**Extend of occurrence (EOO)**		Km^2	>20,000						
13	**Area of occurrence (AOO)**		Km^2	>2,000						
14	**No. of location /Sub-Population**		13							
14 a	**Data quality**		2, 4							
15	**Threads**		Hm, T, Ov (Over harvesting), Sf, Lf (Loss of habitat- Fragmentation), Lp (Loss of habitat-Quality).							
16	**Trade**	**Names**								
		Level(S)	Local	√	Regional	√	National	√	Global	√
		Part traded	Wole plant.							
		Effect of population	Declining							
		Data quality	3, 4							
17	**Other comments**		• This species have good trade, • Used in anti-diabetic medicines.							
18.	**Recent field of studies**		• Tiwari R.K.S. & S.S. Chandrawanshi, 2003. "Technical bulletin on medicinal plants cultivation and uses". IGNU • Bhattacharya P. 2003. "Training manual on medicinal plants- strategies for conservation practices". IIFM, Bhopal.							
19.	**Status**									

	- CITIES	-
	- Legislation	-
	- Criteria based on	**A2cd**
	- IUCN	**VU**
20.	**% of global distribution**	1%
21.	**Existing conservation measure**	*In situ* conservation in Peoples Protected Area.
22.	**Is the presence of taxon continuous with neighboring areas**	Yes
23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	In RDF W.C multi tier plantations.
	a. i*n-Situ*	-
	b. *ex–Situ*	-
	i) Cultivation	3
	ii) Levels of difficulty in propagation / cultivation	3 (Very difficult), Propagation is difficult, only 25% success.
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 18

1	**Botanical name**		***Litsea glutinosa* (Lour.) C. B. Robinson.**							
2	**Basionys/Synonym(s)**		*Litsea sebifera* Pers. *Sebifera glutinosa* Lour.							
3	**Family**		**Louraceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Maida Lakri.							
6	**Habit**		Tree							
7	**Habitat**		Along streams, on hill slopes and in sal mixed forests							
8	**Original global distribution**		Sub tropical and tropical Asia.							
9	**Current regional distribution**		• Hoshangabad, • Mandla, • Panna, • Seoni, • Shivpuri, • Sagar, • Rewa,							
10	**Elevation range (M)**		Up to 1000							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**				
				√						
11	**Time/Rate(Year/generation)**		3 Generations.							
12	**Extend of occurrence (EOO)**		Km^2	>20,000						
13	**Area of occurrence (AOO)**		Km^2	>2,000						
14	**No. of location /Sub-Population**		13							
14 a	**Data quality**		2, 4							
15	**Threads**		Hm, Sf, Lf, Sd, Tp.							
16	**Trade**	**Names**	Maida lakri							
		Level(S)	Loca l	√	Regiona l	√	Nation al	√	Global	√
		Part traded	Bark							
		Effect of population	Declining							
		Data quality	2, 3, 4							
17	**Other comments**		• Gum of the bark is used to make Agarbatti, • Natural regeneration of the species is almost absent. Natural regeneration is by coppicing.							
18.	**Recent field of studies**		Mudgal V., K.K. Khanna & P.K. Hajra, 1977. Flora of M.P. Vol. II; B.S.I.							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**VU**							
20.	**% of global distribution**		<5%							
21.	**Existing conservation measure**		Further exploitation banned.							

22.	**Is the presence of taxon continuous with neighboring areas**	Yes (U.P., Bihar, Orissa, Arunachal Pradesh)
23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	S, M, Hm.
	a. i*n-Situ*	Chitrakoot, Shivpuri.
	b. *ex–Situ*	-
	i) Cultivation	3
	ii) Levels of difficulty in propagation / cultivation	3 (Very difficult).
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 19

1	**Botanical name**		***Marsdenia tenacissima* (Roxb.) Monn.**						
2	**Basionys/Synonym(s)**		*Asclepias tenacissima* Roxb.						
3	**Family**		**Asclepiadaceae**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Dudhiya bela, Moorwabed, Murkule.						
6	**Habit**		Twinner (Woody)						
7	**Habitat**		In sal and mixed forests						
8	**Original global distribution**		Sub tropical and tropical.						
9	**Current regional distribution**		• Belaghat (Kanha TR), • Chattarpur.						
10	**Elevation range (M)**		300-400						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11	**Time/Rate(Year/generation)**		11 Years; 3 Generations.						
12	**Extend of occurrence (EOO)**		Km^2	>20,000					
13	**Area of occurrence (AOO)**		Km^2	>2,000					
14	**No. of location /Sub-Population**		2						
14 a	**Data quality**		2, 3, 4.						
15	**Threads**		Hm, Lf, Tp.						
16	**Trade**	**Names**	Murva						
		Level(S)	Local		Regional		National	√	Global
		Part traded	Root						
		Effect of population	Declining						
		Data quality	2, 3, 4						
17	**Other comments**		Only species in M.P., used in gonohhhoea.						
18.	**Recent field of studies**		Sahu 2003, Bhawari Singh 2003.						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**VU**						
20.	**% of global distribution**								
21.	**Existing conservation measure**		Agro technique development under study (R.K. Pandey, 2003).						
22.	**Is the presence of taxon continuous with neighboring areas**		Yes						
23.	**Are the outside population also under similar threads /pressure**		Yes						
24.	**Recommendations**								
	Research /Management		S, M, T, Hm.						
	a. i*n-Situ*		Needed						
	b. *ex–Situ*		-						

	i) Cultivation	Not yet
	ii) Levels of difficulty in propagation / cultivation	Moderate. Rooting in cutting is difficult. Seed not available.
25	**Existing cultivation**	Not yet
26.	**Previous assessment**	Nil

DATA SHEET – 20

1	**Botanical name**		***Nervilia plicata* (Andr.) Schlechter.**
2	**Basionys/Synonym(s)**		*Arethusa plicata* Andr. *Pogonia plicata* (Andr.) Lindl.
3	**Family**		**Orchidaceae.**
4	**Taxonomic status**		Species
5	**Vernacular names**		Bhuischati.
6	**Habit**		Terrestrial herb.
7	**Habitat**		Damp, dark shady places with high humus soil.
8	**Original global distribution**		Sub tropical regions of old World.
9	**Current regional distribution**		• Hoshangabad (Tewa), • Seoni (Pench), • Chhindwara (Patalkot).
10	**Elevation range (M)**		400-700
11	**Population reduction (pl. tick in appropriate cell)**		**<30%** | **30 to 49%** | **50 to 80%** | **>80%** | | √ |
11	**Time/Rate(Year/generation)**		10 Years.
12	**Extend of occurrence (EOO)**		Km^2 >2000
13	**Area of occurrence (AOO)**		Km^2 >200
14	**No. of location /Sub-Population**		4
14 a	**Data quality**		2, 3, 4.
15	**Threads**		Lp, E, 7
16	**Trade**	**Names**	
		Level(S)	Local | | Regional | | National | √ | Global |
		Part traded	
		Effect of population	Declining
		Data quality	2, 3, 4
17	**Other comments**		Loss due to heavy biotic pressure, grazing, species of ecological and taxonomically importance, representative of evergreen habitat.
18.	**Recent field of studies**		Upadhyaya 2005, Shrivastava 2001, Rai 2004.
19.	**Status**		
	- CITIES		-
	- Legislation		-
	- Criteria based on		**A2c**
	- IUCN		**EN**
20.	**% of global distribution**		1%
21.	**Existing conservation measure**		Nil
22.	**Is the presence of taxon continuous with neighboring areas**		Yes
23.	**Are the outside population also under similar threads /pressure**		Yes

24.	**Recommendations**	
	Research /Management	S, M, T, Hm, Lh.
	a. i*n-Situ*	√
	b. *ex–Situ*	Does not exist.
	i) Cultivation	Does not exist.
	ii) Levels of difficulty in propagation / cultivation	Not known.
25	**Existing cultivation**	No
26.	**Previous assessment**	No

DATA SHEET – 21

1	**Botanical name**		***Pueraria** tuberosa*(Roxb. Ex. Willd) DC.						
2	**Basionys/Synonym(s)**		*Hedysarum tuberosum* Roxb. Ex Willd.						
3	**Family**		**Fabaceae.**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Bidarikand, Badrikand, Bankumhra, Bandrapatel, Patel Kumhra, Bhujnkumhrd.						
6	**Habit**		Large woody climber, roots tuberous.						
7	**Habitat**		-						
8	**Original global distribution**		India, Pakistan, Nepal.						
9	**Current regional distribution**		• Gwalior (Kanher jhir), • Shivpuri, • Ashoknagar (Chandari), • Guna (Guna forest), • Sagar (River side), • Mandla, • Balaghat (Lamte forest, Baihar forest), • Mandla (Supkhar), • Rahli (Karta), • Jabalpur (Kundam, Patalpani), • Rewa (Ovary kakredi), • Indore (Shittamata fall).						
10	**Elevation range (M)**		200-500						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
					√				
11	**Time/Rate(Year/generation)**		25 Years.						
12	**Extend of occurrence (EOO)**		Km^2						
13	**Area of occurrence (AOO)**		Km^2						
14	**No. of location /Sub-Population**		11						
14 a	**Data quality**		2, 3, 4.						
15	**Threads**		E, Hf, Ic, Lf, Lp, Ov, Sd, Tp.						
16	**Trade**	**Names**	Bidarikand						
		Level(S)	Local	√	Regional	√	National	√	Global
		Part traded	Tubers.						
		Effect of population	Declining						
		Data quality	2, 3, 4						
17	**Other comments**		Flowers- Feb.- Mar.; Fruits- Apr. Tubers used for treatment of Dysuria, cough, rheumatism and malarial feaver (In southern states).						
18.	**Recent field of studies**		D.P. Verma 2004. T.P. Sahu 2005, A.K. Jain 2003.						
19.	**Status**								
	- CITIES		-						

	- Legislation	-
	- Criteria based on	**A2cd**
	- IUCN	**EN**
20.	**% of global distribution**	<1%
21.	**Existing conservation measure**	Nil
22.	**Is the presence of taxon continuous with neighboring areas**	Yes
23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	
	a. i*n-Situ*	√
	b. *ex–Situ*	√
	i) Cultivation	
	ii) Levels of difficulty in propagation / cultivation	Not tried.
25	**Existing cultivation**	No
26.	**Previous assessment**	-

DATA SHEET – 22

1	**Botanical name**		***Phyllanthus emblica* L.**						
2	**Basionys/Synonym(s)**		*Emblica officinalis* Gaertn.						
3	**Family**		**Euphorbiaceae**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Anola, Amla.						
6	**Habit**		Tree						
7	**Habitat**		Mixed forests						
8	**Original global distribution**		Tropics.						
9	**Current regional distribution**		• Guna, • Damoh, • Hattarpur, • Hoshangabad, • Mandla, • Tikamgarh.						
10	**Elevation range (M)**		200-1,200						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11	**Time/Rate(Year/generation)**		10 Years.						
12	**Extend of occurrence (EOO)**		Km^2	>20,000					
13	**Area of occurrence (AOO)**		Km^2	>2,000					
14	**No. of location /Sub-Population**		Many						
14 a	**Data quality**		3, 4.						
15	**Threads**		Hm, Tp.						
16	**Trade**	**Names**	Anola						
		Level(S)	Local	√	Regional	√	National	√	Global	√
		Part traded	Fruit						
		Effect of population	Declining						
		Data quality	3, 4						
17	**Other comments**		Destructive harvesting of fruits to be checked, Seed establishment of wild plants should be supported.						
18.	**Recent field of studies**		• S. N. Khotele, 1998-01, • Anon. 2001-2002. Trade- Demand- Supply study for selected medicinal plants- Vol. I, Centre for Research, Planning and Action.						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**VU**						
20.	**% of global distribution**		<1%						
21.	**Existing conservation measure**		Protection through legislation.						
22.	**Is the presence of taxon continuous with neighboring**		Yes						

	areas	
23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	Best germplasms- Panna & Tawai, Shikara (Jabalpur), Satna & Sagar.
	a. i*n-Situ*	
	b. *ex–Situ*	
	i) Cultivation	Improved varieties are being cultivated.
	ii) Levels of difficulty in propagation / cultivation	1 (Least difficult).
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 23

1	**Botanical name**		***Pterocarpus marsupium* Roxb.**						
2	**Basionys/Synonym(s)**		-						
3	**Family**		**Fabaceae**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Bijasal, Bija, Pharri.						
6	**Habit**		Tree						
7	**Habitat**		Tropica dry deciduous forests.						
8	**Original global distribution**		Paninsula and S. India.						
9	**Current regional distribution**		All over the state.						
10	**Elevation range (M)**		200-1,200						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11	**Time/Rate(Year/generation)**		10 Years.						
12	**Extend of occurrence (EOO)**		Km^2	>20,000					
13	**Area of occurrence (AOO)**		Km^2	>2,000					
14	**No. of location /Sub-Population**		-						
14 a	**Data quality**		1, 3.						
15	**Threads**		E, Hm, L, Tp, Sf.						
16	**Trade**	**Names**	Bija						
		Level(S)	Local	√	Regional	√	National	√	Global	√
		Part traded	Wood, Gum						
		Effect of population	Declining						
		Data quality	1, 3.						
17	**Other comments**		-						
18.	**Recent field of studies**		R. K. Pandey *et. al.* 1992-2000. Project report.						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**VU**						
20.	**% of global distribution**		10-15%						
21.	**Existing conservation measure**		-						
22.	**Is the presence of taxon continuous with neighboring areas**		Yes						
23.	**Are the outside population also under similar threads /pressure**		-						
24.	**Recommendations**								
	Research /Management		Seed biology, Regeneration studies, Studies on biotic impact.						
	a. i*n-Situ*		-						
	b. *ex–Situ*		-						
	i) Cultivation		-						

	ii) Levels of difficulty in propagation / cultivation	3 (Highly difficult).
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 24

1	**Botanical name**		***Rubia cordifolia* L.**							
2	**Basionys/Synonym(s)**		*Rubia cordifolia* L. var. manjista (Roxb.) Miq.							
3	**Family**		**Rubiaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Munjeeth, Kusheer, Pilio.							
6	**Habit**		Climbing herb.							
7	**Habitat**		Mixed forests.							
8	**Original global distribution**		Africa, Asia and Australia.							
9	**Current regional distribution**		Amarkantak.							
10	**Elevation range (M)**		1,000-1,500							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**		**30 to 49%**		**50 to 80%**		**>80%**	
					√					
11	**Time/Rate(Year/generation)**		10 Years.							
12	**Extend of occurrence (EOO)**		Km^2	>20,000						
13	**Area of occurrence (AOO)**		Km^2	>2,000						
14	**No. of location /Sub-Population**		Many							
14 a	**Data quality**		3, 4.							
15	**Threads**		Hm, L, Tp.							
16	**Trade**	**Names**	Bija							
		Level(S)	Local	√	Regional	√	National	√	Global	√
		Part traded	Root							
		Effect of population	Declining							
		Data quality	3, 4.							
17	**Other comments**		• Excessive exploitation of roots, • *Rubia cordifolia* is a complex group distributed in Africa, Asia and Australia. *Rubia manjith* Roxb. ex Flem. is a distinct race restricted to Eastern Himalaya (Wealth of Asia, 1994). Therefore, the occurance of *Rubia manjith* in MP is ruled out. Therefor, the species considered for assessment in MP is *Rubia cordifolia* L. sensu. Hook. f.							
18.	**Recent field of studies**		R. K. Pandey, 1998-2002. SFRI.							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**VU**							
20.	**% of global distribution**		<1%							
21.	**Existing conservation measure**		-							
22.	**Is the presence of taxon continuous with neighboring areas**		Yes							

23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	Seed biology, Propagation techniques in ex situ, Protection, Reduction in destructive harvesting.
	a. i*n-Situ*	
	b. *ex–Situ*	Conservation in ex situ through development of gene banks.
	i) Cultivation	-
	ii) Levels of difficulty in propagation / cultivation	3 (Very difficult).
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 25

1	**Botanical name**		***Tacca leontopetaloides* (L.) Kuntze.**							
2	**Basionys/Synonym(s)**		*Tacca pinnatifida* J.R. Forster & G. Forster							
3	**Family**		**Taccaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Vula kand, Varai kand.							
6	**Habit**		Herb.							
7	**Habitat**		Rocky soil on hills.							
8	**Original global distribution**									
9	**Current regional distribution**		• Indore (Janakpur), • Jabalpur (Kathiwade, • Shivpuri (Surwaya).							
10	**Elevation range (M)**		610							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**		**30 to 49%**		**50 to 80%**		**>80%**	
			√							
11	**Time/Rate(Year/generation)**		10 Years.							
12	**Extend of occurrence (EOO)**		Km^2	600						
13	**Area of occurrence (AOO)**		Km^2	15						
14	**No. of location /Sub-Population**		One							
14 a	**Data quality**		2, 3, 4.							
15	**Threads**		Hm, Habitat loss.							
16	**Trade**	**Names**								
		Level(S)	Loca l		Regiona l		Nation al	√	Global	
		Part traded								
		Effect of population	Declining							
		Data quality								
17	**Other comments**		Toothache, urinary troubles.							
18.	**Recent field of studies**		Solanki C.M. 1995, 2003.							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2c**							
	- IUCN		**NT**							
20.	**% of global distribution**									
21.	**Existing conservation measure**									
22.	**Is the presence of taxon continuous with neighboring areas**		Yes							
23.	**Are the outside population also under similar threads /pressure**		Yes							
24.	**Recommendations**									
	Research /Management		-							
	a. i*n-Situ*		√							
	b. *ex–Situ*		-							

	i) Cultivation	-
	ii) Levels of difficulty in propagation / cultivation	
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 26

1	**Botanical name**		***Thalictrum foliolosum* DC.**							
2	**Basionys/Synonym(s)**		-							
3	**Family**		**Ranunculaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Mamiri, Pilazari.							
6	**Habit**		Herb.							
7	**Habitat**		On slopes of ravines in shades of rocks, cool places.							
8	**Original global distribution**		New Guinea, tropical America, tropical and sub tropical Africa, India, Himalayan region.							
9	**Current regional distribution**		• Amarkantak, • Chhinwara, • Hoshangabad, • Pachmarhi.							
10	**Elevation range (M)**		900-1,300							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**		**30 to 49%**		**50 to 80%**		**>80%**	
					√					
11	**Time/Rate(Year/generation)**		10 Years.							
12	**Extend of occurrence (EOO)**		Km^2	>20,000						
13	**Area of occurrence (AOO)**		Km^2	>2,000						
14	**No. of location /Sub-Population**		<20 sites.							
14 a	**Data quality**		3, 4.							
15	**Threads**		Hm, Lp, Tp.							
16	**Trade**	**Names**	Mamiri							
		Level(S)	Local	√	Regional	√	National	√	Global	
		Part traded	Root							
		Effect of population	Declining							
		Data quality	3, 4.							
17	**Other comments**		• Observed in few localities in Amarkantak, • Habitat needs protection, • Local people collect roots on the demand from traders.							
18.	**Recent field of studies**		-							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**VU**							
20.	**% of global distribution**		<1%							
21.	**Existing conservation measure**		-							
22.	**Is the presence of taxon continuous with neighboring areas**		Yes							

23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	Specific sites need to protect.
	a. i*n-Situ*	Amarkantak, Jagatpur, Chada, Bajag.
	b. *ex–Situ*	-
	i) Cultivation	-
	ii) Levels of difficulty in propagation / cultivation	3 (Very difficult) {Reference HAPPRC on propagation}.
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 27

1	**Botanical name**		***Uraria picta* (Jacq.) Desv. ex DC.**						
2	**Basionys/Synonym(s)**		*Hedysarum pictum* (Jacq.)						
3	**Family**		**Fabaceae**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Prashnaparni (Hindi).						
6	**Habit**		Perennial under shrub						
7	**Habitat**		Forest fringe areas as under growth.						
8	**Original global distribution**		Asia, Africa, Australia.						
9	**Current regional distribution**		All over M.P.						
10	**Elevation range (M)**		Up to 1000						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11	**Time/Rate(Year/generation)**		10 Years.						
12	**Extend of occurrence (EOO)**		Km^2	>20,000					
13	**Area of occurrence (AOO)**		Km^2	>2,000					
14	**No. of location /Sub-Population**		In pockets.						
14 a	**Data quality**		2, 3, 4.						
15	**Threads**		Hm, Hp, Lp, Sd, Sf, T.						
16	**Trade**	**Names**	Prashnaparni						
		Level(S)	Local	√	Regional	√	National	√	Global	√
		Part traded	Whole plant.						
		Effect of population	Declining						
		Data quality	3, 4.						
17	**Other comments**		Complete plant is used there by threatening the population.						
18.	**Recent field of studies**								
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**VU**						
20.	**% of global distribution**		<1%						
21.	**Existing conservation measure**		Not known.						
22.	**Is the presence of taxon continuous with neighboring areas**		Yes						
23.	**Are the outside population also under similar threads /pressure**		Yes						
24.	**Recommendations**								
	Research /Management		S (Survey, search & find).						
	a. i*n-Situ*		-						
	b. *ex–Situ*		-						
	i) Cultivation		-						

	ii) Levels of difficulty in propagation / cultivation	1 (Least difficult).
25	**Existing cultivation**	Not known.
26.	**Previous assessment**	-

DATA SHEET – 28

1	**Botanical name**		***Urginea indica* (Roxb.) Kunth.**							
2	**Basionys/Synonym(s)**		*Drimia indica* (Roxb.) J.P. Jessop.							
3	**Family**		**Liliaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Jangli piyaz.							
6	**Habit**		Herb.							
7	**Habitat**		Through out moist zone, Tropical forest.							
8	**Original global distribution**		India, Asia, Africa.							
9	**Current regional distribution**		• Dindori, • Mandla, • Amarkantak, • Bilaspur, • Satna, • Pachmarhi.							
10	**Elevation range (M)**		300-1,500							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**				
				√						
11	**Time/Rate(Year/generation)**		10 Years.							
12	**Extend of occurrence (EOO)**		Km^2	<20,000						
13	**Area of occurrence (AOO)**		Km^2	<2,000						
14	**No. of location /Sub-Population**		In all district in moist sal forest.							
14 a	**Data quality**		3, 4.							
15	**Threads**		Hm, Lp, Tp.							
16	**Trade**	**Names**	Jangli piyaz.							
		Level(S)	Local		Regional		National	√	Global	
		Part traded	Bulb.							
		Effect of population	Declining							
		Data quality	3, 4.							
17	**Other comments**		Destructive harvesting.							
18.	**Recent field of studies**		Annual progress report, ICAR, 2002-2003.							
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**VU**							
20.	**% of global distribution**		<1%							
21.	**Existing conservation measure**		-							
22.	**Is the presence of taxon continuous with neighboring areas**		Yes							
23.	**Are the outside population also under similar threads /pressure**		Yes							

24.	**Recommendations**	
	Research /Management	Multiplication, Sustainable management.
	a. i*n-Situ*	-
	b. *ex–Situ*	Tissue culture, Propagation.
	i) Cultivation	-
	ii) Levels of difficulty in propagation / cultivation	2 (Moderately difficult).
25	**Existing cultivation**	-
26.	**Previous assessment**	-

6.6 ETHNOBOTANICAL DIVERSITY (TRADITIONAL KNOWLEDGE)

Man's vital interest in plants primarily as a source of food. Shelter and clothing dates from the very origin of human civilization. Plants play an important role in any ecosystem and also contribute to the welfare of the humankind by providing the so-called 4 F's i.e., food, fodder, fuel and fiber. Importance of ethnobotany has been realized chiefly in respect of the varied economic uses of plants among the primitive human societies. It brings to light many little- known or unknown uses of plants, some of which have potential for commercial exploitation. To have safety for the sustenance of all the forms that are related with each other, it is imperative that biological diversity is conserved. Conservation of biological diversity should be supplemented with the conservation of cultural diversity, as it is the essence of knowledge on sustainable use of biological resources. The knowledge now available with the ethinic group is the result of their close association with the nature over the ages, passed down through generations. The reason that the knowledge has been conserved by them is largely due to their realization that the edible, medicinal and crop plants are vital life sustaining sources. This knowledge of tribal people can open new doors to find alternate food and drug resources.

Twelve different ethnobotanical categories are enumerated (Table – 18), which are used by different tribal groups near by different sacred groves. 63 plant species are used in daily life as vegetables, 46 species used as fruits and seeds, 68 species are used as fodder plants for cattle and live stocks, 7 plants are used as beverages for daily life. For oil purpose they are using 10 species, 12 species were using by different tribal gropu for tooth brush in the morning. In hunting and fish poisioning they are using 11 plant species. Relegious and sacred plant enumerated as 13 and 9 species. Tribal gropus are making musical instruments from dofferent 5 plant species. 7 species are used for narcotic purpose and 17 species for fiber. The ethno botanical diversity of tribal groups nearby different sacred groves were recorded and categories as under in Table - 19.

Table – 18: Number of species used by tribal groups for ethnobotanical purpose

Ethnobotanical Use	Number of Species
Vegetables	63
Fruit and Seeds	46
Fodder	68
Beverages	7
Oil Yielding Plants	10
Tooth Brushes	11

Fish Poisons and Arrow Head Poisons	11
Religious plants	13
Sacred Trees	9
Musical instruments	5
Narcotic Plants	7
Fibre Yielding plants	17

Table – 19: Ethnobotanical diversity of plants

A. VEGITABLES

S. No.	Botanical Name	Part Used
1.	Acacia sinuata (Lour) Merr.	Tender leaves
2.	Acacia modesta Wall	Flower
3.	Aegle marmelos Corr.	Fruit, pulp
4.	Alangium lamarkii	Fruit
5.	Amaranthus spinosus L.	Young leaves,Leaves
6.	Amaranthus viridis L.	Young leaves and shoots
7.	Amorphophallus paeoniifolius (Dennst.)	Corn
8.	Aristolochia indica	Leaf.
9.	Asparagus racemosus Willd.	Tuberous roots
10.	Bambusa arundinacea (Retz.) Willd.	Young shoots
11.	Basella alba L.	Leaves and stem
12.	Bauhinia purpurea Linn.	Leaves
13.	Bauhinia malabarica Roxb.	Flower buds and fresh flowers
14.	Boerhavia diffusa L	Leaves
15.	Bombax ceiba L.	Tuberous root of young sapling, flower buds and flower eaten
16.	Bridelia retusa Spreng.	Inflore cence (young)
17.	Butea monosperma (Lamk.) Taub.	Swollen roots
18.	Cassia fistula L.	Young shoots, leaves & tender pods. Flowers.
19.	Cassia tora L.	Young shoots, leaves & tender pods.
20.	Celosia orgentea L.	Young leaves
21.	Ceropegia lawii H.K.	Tuber
22.	Chenopodium album L.	Whole plant
23.	Chlorophytum tuberosum (Roxb.) Baker	Swollen roots
24.	Cleome viscose L.	Tender shoots and leaves
25.	Clerodendron infortunatum L.	Young leaf fruit
26.	Clerodendron serratum Spr.	Flowers buds & leaves
27.	Cocculus hirsutus (L) Diels	Tender leaves
28.	Colocasia esculenta (L.) Sch.	Tender leaves, corn & fruits
29.	Commelina benghalensis L.	Leaves
30.	Cordia dichotoma Forsk. F.	Young leaves
31.	Dendrocalamus strictus Nees.	Young shoots

32.	Digeria muricata (G) Mart.	Tender hoots
33.	Dillenia pentagyna L.	Flower
34.	Dioscorea bulbifera L.	Tuberous roots and bulbs
35.	Dioscorea oppositifolia L.	Tuberous roots
36.	Diospyros melonoxy Roxb.	Fruit pulp
37.	Emillia sonchifolia (L) D.C.	Leaves
38.	Euphorbia hirta L.	Fresh leaves
39.	Gamelina arborea L.	Fauit pulp
40.	Gardenia resinifera Roth	Fruits
41.	Ipomoea aquatica Forsk	Young leaves
42.	Ipomoea batatas (L) Lam.	Tuberous roots
43.	Lannea coromandelica (Houtt). Merr.	Leaves flower
44.	Lannea procumbens (Roxb.) Ram and Raj	Leaves
45.	Leea indica (Burm.f.) Merr.	Tender shoots
46.	Leucas cephalotes Koen.ex Roth. Spr.	Leaves and young shoots
47.	Leucas plukenetii (Roth) Spreng	Tender leaves and flowers
48.	Madhuca indica Gmel.	Flower
49.	Melochia corchorfolia L.	Whole plants
50.	Momordica dioica Roxb. ex. Will	Young fruit
51.	Moringa oleifera Lam.	Tender fruits and leaves
52.	Murraya koengii (L) Spr.	Leaves
53.	Oxalis corniculata L.	Leaves
54.	Pueraria tuberosa D.C.	Tuberous roots
55.	Smilax zeylanica L.	Young branches and leves
56.	Smithia corferta Sm.	Leaves
57.	Solanun nigrum L.	Leaves and tender shoots
58.	Tacca leontopetaloides (L) O Kuntze	Corn
59.	Tribulus lanuginosus L.	Young leaves
60.	Trichosanthes cucameria Roxb.	Fruits
61.	Vigna vaxillata (L.) Rich	Fusiform roots
62.	Woodfordia fruticosa (L.) Kurz.	Flower
63.	Wrightia tinctoria R. Br.	Flower

B. Fruits and Seeds

S. No.	Botanical Name	Part Used
1.	Aegle marmelos (L) Corr.	Unripe and ripe fruits
2.	Alangium Lamarkii Thw.	Fruit
3.	Ampelocissus latifolia (Lamk). Planch	Berries
4.	Annona squamosa L.	Ripe fruits
5.	Bauhinia racemosa Lamk.	Roasted seeds
6.	Bridelia squamosa (Lamk) Gaertn.	Ripe fruits
7.	Capparis decidlua (Forsk) Edgew.	Unripe fruits
8.	Careya arborea Roxb.	Ripe fruits
9.	Carisa congesta Wt.	Ripe fruits
10.	Carissa spinarum Linn.	Ripe fruits
11.	Cucumis melo. L.	Fruits
12.	Dendrocalamus strictus (Roxb.) Nees	Seeds

13.	Dillenia pentagyna Roxb.	Ripe fruits
14.	Diospyros melanoxylon Roxb.	Ripe fruits
15.	Phyllanthus emblica Gaertn.	Fruits
16.	Ficus glomerata Roxb.	Ripe fruits
17.	Ficus hispida L.f.	Ripe fruits
18.	Ficus infectoria Roxb.	Ripe fruits
19.	Ficus montana Grah.	Fruits
20.	Ficus racemosa L.	Ripe Receptacle
21.	Flacourtia indica (Burm.F.) Merr.	Berries
22.	Gamelina arborea Linn.	Ripe fruits
23.	Garcinia India Choisy	Ripe fruits
24.	Garuga pinnata Roxb.	Fruits
25.	Gmelina arborea L.	Drupes
26.	Grewia abutifolia Vent ex. Juss.	Fruits
27.	Grewia tilliaefolia Vahl.	Red ripe fruits
28.	Lantana aculeata Linn	Ripe fruits
29.	Leea asiatica (L) Ridsdale	Fleshy fruits
30.	Leea macrophylla Roxb. ex. Horn.	Ripe fruits
31.	Madhuca indica J.F. Gmel.	Ripe fruits
32.	Mangifera indica L.	Fruits
33.	Millusa tomentosa (Roxb). Since	Ripe fruits
34.	Mucuna pruriens (L) DC.	Young pods, and roasted seeds
35.	Mukia maderaspatana (L) M. Roem.	Ripe fruits
36.	Phaseolus radiatus L.	Seeds
37.	Physalis minima L.	Ripe fruits
38.	Pithecellobium dulce Beth	Ripe fruits
39.	Pongamia pinnata (L) Roxb.	Fruit pulp
40.	Semecarpus anacardium L.f.	Ripe fruits
41.	Syzygium cuminii (L) Skeels.	Ripe fruits
42.	Terminalia bellerica Roxb.	Seed pulp and seed
43.	Vigna vexillata (L) Rich.	Seeds
44.	Ziziphus jujuba Mill.	Ripe fruits
45.	Zizyphus mauritiana Lam	Ripe fruits
46.	Zizyphus oenoplia (L) Mill	Ripe fruits

C. Fodder plants

S. No.	Botanical Name	Part Used
1.	Abutilon graueolens L. Sweet.	Whole plants
2.	Acacia arabica L. F. Will.	Young leaves
3.	Acacia nilotica (L) Del.	Tender shoots
4.	Alangium salvifolium (Lf) Wang	Leaves
5.	Alloteropsis cimicina (L) Stapf.	Whole plant
6.	Andropogon annulatus For. L.	Whole plants
7.	Andropogon contortus Linn.	Whole plants
8.	Andropogon ascinoides C.B.d.	Whole plant
9.	Andropogon caricosus. Linn.	Whole plants

10.	Andropogon pumilus Roxb.	Whole plants
11.	Anthistiria ciliata Linn.	Whole plants
12.	Arunado donax Linn.	Whole plants
13.	Bahunia vahlii	Whole leaves
14.	Bauhinia purpurea Linn.	Young leaves
15.	Boerhavia diffusa Linn.	Young leaves
16.	Boheraavia diffusa L.	Whole plants
17.	Bridelia retusa L.	Leaves
18.	Bridelia retusa Spreng.	Young leaves
19.	Butea monosperma Lam.	Young leaves
20.	Cassia tora L.	Leaves and whole plant
21.	Chloris incopmpleta Roth. Syn.	Whole plants
22.	Chrysopogon montanus Trin.	Whole plants
23.	Cissamplelos pariera L.	Leaves
24.	Crotolaria juncea L.	Leaves
25.	Cymbopogon flexuosus Steud.	Whole plants
26.	Cymbopogon martini (Roxb).	Whole plants
27.	Cynodon dactylon Pers.	Whole plants
28.	Cyperus rotundus Linn.	Whole plants
29.	Dandrocalamus strictus Nees.	Whole plants
30.	Desmodium cephalotes Wall.	Whole grass
31.	Desmodium triflorum Linn.	Whole grass
32.	Dicanthium annulatum (Forsk) Stapf.	Whole leaves
33.	Dichanthium caricosum A. Camus.	Whole grass
34.	Digitaria adscendens (H.B.K.) Henr.	Whole plant
35.	Digitaria chinensis Hom.	Leaves plant
36.	Digitaria marginata Link.	Whole plant
37.	Eleusine indica (L) Gaertn	Seeds and leaves
38.	Eragrostis pilosa Roxb.	Whole grass
39.	Eragrostis tenella Roem & Scha.	Whole grass
40.	Euphorbia hirta Linn.	Whole plant
41.	Evolvulus alsinoides Linn.	Whole plant
42.	Ficus religiosa L.	Leaves
43.	Ficus virens Ait.	Leaves
44.	Heteropogon contortus Beauv.	Whole plant
45.	Imperata cylindrical P. Beauv.	Whole plant
46.	Indigofera tinctoria Linn.	Whole plant
47.	Ischaemum `sulcatum Hack.	Whole plant
48.	Iscilema laxum Hack.	Whole plant
49.	Iscilema prostratum Anderss	Whole plant
50.	Ishaemum laxum R. Br.	Whole plant
51.	Jussiaea repens Linn	Whole plant
52.	Justicia procumbens L.	Leaves
53.	Leucaena leucocephala (Lam) De. Wit	Whole plant
54.	Medicago sativa L.	Whole leaves
55.	Ocimum canum Sims.	Whole leaves
56.	Panicum prostratum Lamk.	Leaves
57.	Paspalum flavidum Retz. A.Camus.	Whole plant

58.	Pergularia daemia (Forsk) Pers.	Whole leaves
59.	Phyllanthus urinaria Hook.	Whole plant
60.	Pithecellobium dulce (Roxb.) Benth	Leaves
61.	Setaria pumila (Poir) Roem and Schult.	Leaves
62.	Sida cordifolia Linn.	Whole plant
63.	Sida humilis Cav.	Whole plants
64.	Sida rhombifolia Linn.	Whole plant
65.	Smilax nacrophylla Roxb.	Whole plant
66.	Smithia conferta Sm.	Whole plants
67.	Tephrosia purpurea (L) Pers.	Whole leaves
68.	Themeda quadrivalvis P. Kuntz.	Leaves

D. Beverages

S. No.	Botanical Name	Part Used
1.	Aegle memelos (L) Corr.	Fruit pulp
2.	Asparagus racemosus L.	Young shoot, tuberous roots juice
3.	Cassia tora L.	Seed powder
4.	Garcinia indica Choisy	Ripe fruits and rind juice
5.	Madhuca indica Gmel.	Flowers
6.	Oryza sativa L.	Grain Extract
7.	Pheonix sylvestris Roxb.	Sweet sugary sap.

E. Oil yielding plants

S. No.	Botanical Name	Part Used
1.	Azadirachta indica A. Juss.	Seeds
2.	Celastrus paniculata Willd.	Seeds
3.	Cymbopogon martini (Roxb.) Wats.	Leaves
4.	Cyperus rotundus.	Leaves, Roots
5.	Jatropha curcas L.	Whole plants
6.	Madhuca indica Gmel.	Seeds
7.	Ricinus cummunis L.	Seeds
8.	Semecarpus anacardium L.F.	Seeds
9.	Sesamum indicum L.	Seeds
10.	Vertiveria zizinoides (L) Nash.	Roots leaves

F. Tooth Brushes

S. No.	Botanical Name	Part Used
1.	Acacia nilotica (L) Del.	Young Stems
2.	Azadirachta indica A. Juss	Young Branches
3.	Baliospermum montanum (Willd.) Muell.	Young Branches
4.	Cordia dichotoma Forst.	Tender shoots
5.	Ficus benghalensis L.	Young Branches
6.	Indigofera tinctoria Linn	Stem
7.	Jatropha curcus L.	Tender shoots
8.	Kirganelia reticulata (Poir) Baill.	Tender shoots

9.	Lantana camara L.	Stems
10.	Mitragyna parviflora (Roxb.) Korth	Tender shoots
11.	Nyctanthes arbor tristis L.	Stems
12.	Smilax zeylanica L.	Stems

G. Fish poision and arrow head posion

S. No.	Botanical Name	Part Used
1.	Abrus precatorius	Seeds
2.	Baliospermum montanum (Willd) Muell.	Leaves and Latex
3.	Calotropis gigantea (L) R. Br.	Latex
4.	Casearia graveolens Dalz.	Leaves & Seeds
5.	Chloroxylon swietenia D.C.	Leves & Seed
6.	Datura innoxia Mill.	Seeds
7.	Datura metel L.	Seeds
8.	Holoptelia integrifolia (Roxb.) Planch.	Leaves juice
9.	Jatropha curcas L.	Fruit juice
10.	Syzygium cumini (L) Skeels.	Fruits, Bark
11.	Varbascum chinense (L) Sant.	Plant juice

H. Religious plants

S. No.	Botanical Name	Part Used
1.	Aegle marmelos (L) Corr.	Leaves (whole tree)
2.	Bauhinia recemosa Lamk.	Leaves
3.	Butea parviflora Roxb.	Flower
4.	Calotropis gigantea (L) R. Br.	Flowers
5.	Calotropis procera (Air) R. Bre.	Flowers
6.	Phyllantus emblica Gaertn.	Fruits
7.	Ficus religiosa Roxb.	Whole tree
8.	Lawsonia inermis L.	Leaves
9.	Madhuca indica Gmel.	Flower
10.	Mangifera indica L.	Leaves and branches
11.	Ocimum basilicum L.	Leaves
12.	Ocimum sanctum L.	Leaves
13.	Tectona grandis L. f.	Young bud

I. Sacred Trees

S. No.	Botanical Name	Part Used
1.	Aegle marmelos (L) Corr.	Whole plant, Leaves
2.	Azadirachta indica A. Juss.	Whole plant
3.	Phyllanthus emblica Gaertn.	Fruits
4.	Ficus benghalensis L.	Whole plant
5.	Ficus religiosa L.	Whole plant, Leaves
6.	Madhuca indica Gmel.	Flower, Oil, Whole plant
7.	Mangifera indica L.	Whole plant, Leaves,

		Twigs
8.	Mitragyna parviflora (Roxb.) Kurtz	Whole plant
9.	Tectona grandis L.f.	Whole plant

J. Musical instruments

S. No.	Botanical Name	Part Used
1.	Dendrocalamus mixima.	Dried fruits
2.	Dendrocalamus strictus (Roxb.) Nees.	Stems
3.	Gmelina arborea L.	Leasves
4.	Leea macrophylla Roxb.	Leasves
5.	Tactona grandis L.f.	Leasves and stems

K. Narcotic Plants

S. No.	Botanical Name	Part Used
1.	Ampelocissus arnottiana Wight. & Arn.	Seeds
2.	Bauhinia purpurea L.	Leasves
3.	Calotropis procera (Ait)R. Br.	Letex
4.	Datura innoxia Mill.	Seeds
5.	Gardenia gummitera Linn.f.	Seed
6.	Lagerstroemia parviflora Roxb.	Seed powder
7.	Nicotiana plubaginefolia viv. Elench.	Leasves

L. Fibre Yielding plants

S. No.	Botanical Name	Part Used
1.	Abutilon indicum (L) Sweet.	Stem
2.	Acacia caesia A. Wight	Stem
3.	Agave cantula Roxb.	Leaves
4.	Bombax ceiba L.	Fods
5.	Butea monosperma (Lam) Taub.	Root bark
6.	Butea superba Roxb.	Bark
7.	Calotropis procera (Ait) R. Br.	Fods and Stem
8.	Careya arborea Roxb.	Bark
9.	Cochorus capsularis L.	Stem
10.	Crotalaria juncea L.	Stem
11.	Grewia tilifolia Vahl.	Bark
12.	Gymnema sylvestre (Retz) R.Br.	Stem
13.	Helieteres isora L.	Stem
14.	Ichnocarpus frutescens (L.) R. Br.	Stems
15.	Marsdenia tenacissima Wight & Arn.	Stem
16.	Urena lobata L.	Stem
17.	Wrightia tinctoria (Roxb.) R. Br.	Stem

6.8 AWARENESS CAMPAINING AMUNG THE LOCAL PEOPLE ABOUT THE NATURAL RESOURCES AND THEIR UTILIZATION

During the field survey of various Sacred Groves awareness campaining were made in the near by villages. Villagers were took the part in the awareness programme and discuss in the deatiled about Sacred Groves and natural resources near by villages. They discussed regarding the method for collection of NTFPs and other natural resources. Team members explained the harvesting method of some important NTFPs and natural resources mainly like Aonla, Bel, Satavar, Baibidang, Malkangni, Kalmegh, Tekur, Baichandi, etc. Team members also promoted the vilagers to plant important and commercial plants near by their house.

7. SUMMARY & CONCLUSION

Madhya Pradesh has 18 tribal districts with more than 65-70% population of tribals; this reflects that there must be presence of tribal conservation areas. Though in Madhya Pradesh, the presence of SG's were reported long back in 1970's by Gadgil and Vartak (1974) and Gokhale *et al.,* (2001), yet til date no study was initiated to ackknowledge the status and conservation values of Sacred Groves. The identification and inventorization is being done through this project for the first time. District Mandla is taken for the inventorization of SG's with following objectives;

- To study the status of sacred groves.
- To inventories the floral and faunal diversity.
- To study the status of endemic, rare and threatened medicinal plants in sacred grooves
- To study the traditional knowledge of natural recourses and their value
- Awareness campaign among the local people about the natural recourse and their utilization

To fulfill the above objectives the following line of methods has been followed. To assess the diversity of medicinal plants, seasonal periodical survey has been done in the sacred groves. Phytosociological studies and vegetation analysis were carried out through quadrate method. Diversity index and index dominance have been studied through Shannon & Simpson index. Status of rare and endangered medicinal plants is prepared and its degree was assessed. UNESCO model were consulted to work out the status of endangered species. IUCN red list category for evaluating the status of medicinal plants was followed as per literature.

OBSERVATION

1. Status of Sacred Groves

A survey was performed for the identification of around 30 sacred groves in the Mandla district of Madhya Pradesh. The sites were identified on the basis of the beliefs of the tribals in these places as well as their faith in the deity they identify at this place. At least 50% of these places are still in very good condition and can provide a very good *in situ* conservation site for threatened species as well as habitat. One of the most important features of the Sacred Groves is that these areas have a perennial water source within the every premises of worship while in other places the water body is present very near to them. The other important aspect is there are presence of some threatened species especially trees in these SG's.

The identified groves were of various sizes, i.e. 10 m^2, 10-50 m^2, 50 m^2, 50-100 m^2, 100 m^2. They were devoted to different deities such as Banjari mata, Budi mata, Thakur deo, Bada Deo, Mahadev, Narmada maiya *etc.* From the names of the deity we can understand that they revere all natural gods. Banjari mata is the protector of the forests. They worship river Narmada as a goddess Narmada maiya, while Bada deo is none other than Mahadev or Lord Shiv. All their beliefs are related with their interaction, dependence and reverence for the nature and its produce. The fundamental principle behind the concept of each Sacred Grove is seen in many places in the Mandla district of the state.

Figure - 1 shows the occation of worship in the sacred groves. The analysis of data reveals that 13 sacred groves are worshiped during every ferstival. Whereas 8 each sacred groves are specifically worshiped during the Navratri and Sankranti. 1 sacred grove is worshiped more than 2 times in a year i.e. Ramnavmi and Navratri.

28 (93%) sacred groves were more than 50 years old. 1 sacred grove each were 30 years and 25 years old respectively. This means that most of the sacred groves were in natural forested areas and exist since 2 to 5 decds (Figure – 2).

The average distances of the sacred groves were not more than 4 km from near by village. During the analysis of data it has been analysed that 14 sacred groves were identified under a distance of 2 km from the near by village. 11 sacred groves are found up to 3 km, 3 are 1.5 km and 2 are 4 km far from the village (Figure – 3).

2. Floristic Composition and Plant Diversity

The entire Sacred Groves form district Mandla of Madhya Pradesh has been surveyed and inventory of the plant diversity was prepared. Total 140 plant species belonging to 55 families arranged alphabetically with their local name, family name and habitate are given in the report. The colleced data reflects the richness of floral as well as medicinal plants diversity. Availability of plants associated with the floristic composition, which is one of the major characterstic meant for distinguishing the plants community, depending upon the varied sites and other environmental conditions. Plants diversity of sacred groves is an evident from the data comprising of 109 genera belonging to 140 species and 55 families.

Collected data revealed that 6 large sized trees, 59 medium sized trees, 11 small trees, 47 herbs, 11 climbers, 3 grasses and 3 epiphytes are identified from different sacred groves shows that the maximum number of trees falls under middle age group. Herbacious flora is also rich and found in different sacred groves.

Among the total 55 families found at the study site, 25 families were having only single specie. Similarly 10 families were having only 2 species whereas 7 families were having 3 species, 6 families were with 4 species, 3 families with only 5 species, 3 families were having 6 to 10 species and only one family (Paplionaceae) was having more than 10 species.

The status of 10 dominant families was determined from the study sites, which showed that Paplionaceae is the most dominant family and holds the first position with 15 species follwed by Euphorbiaceae with 8 species. The other major dominant families from third position to tenth position are Rubiaceae and Zingeberaceae with 6 species, Comberataceae, Moraceae and Liliacea with 5 species, Myritaceae, Ochidaceae and Rhamnaceae with 4 species. The details of ten dominant families found from the data analysis are given in the report with the name of the family and their respective number of species.

3. Plant Diversity Index

Total 44 tree species were recorded from the different sacred groves during the quadret survey. Obsevation determined with reference to frequency, density ha^{-1}, basal area km^2 ha^{-1}, IVI and diversity index of the 44 tree species. The frequency of ***Lagerstoemia parviflora, Madhuca latifolia*** and ***Terminalia alata*** was found to be 100% in the all the sacred groves. The total density ha^{-1} in this community was recorded to be 548 trees ha^{-1}, out of which the major three species namely ***Madhuca latifolia, Lagerstoemia parviflora*** and ***Terminalia alata*** showed their availability in 117 trees ha^{-1}, 87 trees ha^{-1} and 68 trees ha^{-1} respectively. The basal area m^2 ha^{-1} occupied by the total number of tree species was 19.86 m^2 ha^{-1} of which the maximum values were ***Madhuca latifolia*** (5.18 m^2 ha^{-1}) followed by ***Terminalia alata*** (2.20 m^2 ha^{-1})***, Gardenia latifolia*** (1.78 m^2 ha^{-1}) and ***Lagerstoemia parviflora*** (1.74 m^2 ha^{-1}). The highest IVI values recorded by the major tree association in this community was formed by ***Madhuca latifolia*** (IVI – 55.06%)***, Lagerstoemia parviflora*** (IVI – 32.19%)***, Terminalia alata*** (IVI – 31.13%) and ***Buchanania lanzan*** (IVI – 23.74%)**.** The value of diversity index in sacred groves for tree community was calculated to be 3.05, representing a fairly good diversity of tree species in the area. The maximum diversity index values of ***Madhuca latifolia, Lagerstoemia parviflora, Terminalia alata*** and ***Buchanania lanzan.***

The status of shrub layer structure in different sacred groves, which is constituted by the association of 34 species, was given in the report. ***Lantana camara, Holarrhena pubescens*** and ***Lagerstoemia parviflora*** represented maximum frequency level in the shrub association with values of 77.8%, 68.52% and 64.81%. Whereas the density $ha^{-1}$of the shrub species namely ***Lantana camara*** (1867 plants ha^{-1}), ***Holarrhena pubescens*** (1089) plants ha^{-1}) and ***Anogeissus latifolia*** (956 plants ha^{-1}) shows higher concentration. Abundance ha^{-1} of shrub species *viz.* ***Lantana camara***, ***Anogeissus latifolia*** and ***Phyllanthus emblica*** recorded maximum values. IVI values of the major shrub in association with this community was formed by ***Lantana camara*** (IVI – 28.91%)***, Holarrhena pubescens*** (IVI – 19.62%)***,*** and ***Anogeissus latifolia*** (IVI – 17.72%), ***Lagerstoemia parviflora*** (IVI – 15.90%) and ***Terminalia alata*** (IVI – 14.74%). *S*hrub species ***Lantana camara, Holarrhena pubescens*** and ***Anogeissus latifolia*** showed diversity index between 0.17-0.23.

The herbaceous layer of different sacred groves was reported to be 68 species including regeneration of various trees and shrub species. The total density ha^{-1} of herbs in the sacred groves was found to be 371333 plants; abundance ha^{-1} 1674936 plants, and diversity index was 1.77 respectively. ***Elephantopus scaber, Cassia tora*** and ***Hyptis suaveolens*** showed maximum frequency % and density ha^{-1}. ***Boswellia serrata, Cyanotis fasciculata*** and ***Elephantopus scaber*** recorded the high abundance ha^{-1} whereas ***Elephantopus scaber*** (IVI – 9.07%), ***Hyptis suaveolens*** (IVI – 7.54%) and ***Cassia tora*** (IVI – 4.97%) recorded maximum value index. The diversity index was maximum for ***Elephantopus scaber*** (0.11), ***Hyptis suaveolens*** (0.09) and ***Cassia tora*** (0.07).

4. Faunal Diversity

A total of 59 wild animals and reptiles were observed during the field survey. The name of the faunal species(English and Hindi names) are given in the report.

5. Important Medicinal Plants

Medicinal plants used by different tribal groups in the nearby sacred groves were also documented. A list of medicinal plants used for particular ailments was prepared. The analysis of data reveals that the tribes for any specific ailment used many species and sometimes one species were used for one or more than one ailments depending upon the availability of the particular species in the locality. As per table, 2 species was used as abortifacient, 5 species as antidote to snake bite, 7 species as antipyretic, 4 species as antiseptic, 5 species as Aphrodisiac, 4 species to cure asthma, 14 species were having astringent properties, 2 species for enhancing memory and as a brain tonic, 5 species as carminative, 3 species in cathartic, 4 species in cough and cold, 3 sipecies in demulcent, 8 species as diabetes, 10 species in diarrhaea and dysentery, 9 species as diuretic 4 species as febrifuge, 2 species in scabies, 9 species in jaundice, 2 species for kidney stones, 10 species as laxative, 1 species to cure malnutrition, 13 species in rheumatism, 12 species for skin diseases and 2 species for throat infections, 4 species in ulcer and 3 species for venereal disease and 5 species were for worm problems.

Moreover, one species each was used by the tribes for ailments such as eye problems, emmenagogue, malarial fever cough, tumor, leucoderma, urinary complaints, sterility, hair promotion, gonorrhea, syphilis, vermifuge, ulcer and plage as a sedative. Thus, it was observed that these people owe firm faith on medicinal plants in order to cure their diseases from fever to cancer. However, the application of these medicinal plants did not revealed these tribesmen, as they do not want their inherited knowledge to be known by the outside world.

6. Status of Endemic, Rare and Threatened Medicinal Plants

Inventory of endemic, rare and threatened medicinal plants have been prepared on the bases of seasonal survey and available field informations. IUCN red list category and threat assessment methods for evaluating the status of the medicinal plants have been followed as per threat area. Data revealed that no endemic medicinal plant species were identified from the sacred groves. 21 vulernable species, 5 endangered species, 2 near threatened species was analysed from the collected data. Status of endemic, rare and threatened medicinal plants in the 28 Sacred Groves which are analysed and presented with the name of plant species, family and threat status of the species.

7. Ethnobotanical Diversity (Traditional Knowledge)

Twelve different ethnobotanical categories are enumerated, which are used by different tribal groups near by different sacred groves. 63 plant species are used in daily life as vegetables, 46 species used as fruits and seeds, 68 species are used as fodder plants for cattle and live stocks, 7 plants are used as beverages for daily life. For oil purpose they are using 10 species, 11 species were using by different tribal gropu for tooth brush in the morning. In hunting and fish poisioning they are using 11 plant species. Relegious and sacred plant enumerated as 13 and 9 species. Tribal gropus are making musical instruments from dofferent 5 plant species. 7 species are used for narcotic purpose and 17 species for fiber. The ethno botanical diversity of tribal groups nearby different sacred groves were recorded and categories.

THREATS TO SACRED GROVES

Following threats are observed from the study sites;

1. **Encrochment**

Many instances are observed were the sacred groves have been encroached by local communities as well as by people migrating from out side.

2. **Removal of Biomass**

In many sacred groves, removal of biomass and cattle grazing is permited. Continuation of these practices over generation has resulted in the dwindling of the groves.

3. **Modernisation**

The most recent threats to sacred groves come from the process of mordenisation. Local traditions are to be challenged by the western urban culture. Morden education system fails to instill respect to local traditions. As a result institution of sacred groves is losing its cultural importance for the younger generations of local people.

4. **Sanskritisation**

In many places, local folk deities continued to replace the Hindu Gods and Goddesses. This has been resulted in the erection of the temple in the sacred groves.

5. **Commercial Forestry**

Many sacred groves were destroyed under commercial forestry operations.

6. **Shift in Belief System**

In some places, conversion to other religions has resulted in the degradation of sacred groves.

FUTURE STRATEGIES

11. Understanding local peoples knowledge of resourse and their value
12. Developing and creating awareness among local people about the resource and their values.
13. Preparation of action plan for conservation, protection and augmentation of recourses.
14. During the preparation of Working Plans of the forest division sacred groves should be included.
15. Involvement of the local people in protection and augmentation.

CONCLUSION

Traditional human relationship with plants played an important role in conservation of flora, fauna and individual species. Expanding human population has caused increased natural resources exploitation and alteration of land use pattern. Phyto-diversity rich sacred groves could also have strong human impact. Based on the floristic studies carried out in 48 sacred groves in two district of Madhya Pradesh, it clearly shows that these groves are the hot spots of biological and socio-cultural diversity. The floristic composition also suggested that these were the remnants of the once flourishing forest. About 60% of the plants were medicinally and other also economically important. Many rare, endemic and threatened plants are conserved in these areas. It is a clue that even climax vegetations of various altitudes and latitudes can be conserved in in-situ in these groves. The present study revealed that it is important to do systematic enumeration of these isolated habitates. They could be used as germplasm collection of all the plants in an area. Mico-propagation and tissue culture of the fast disappearing plants of these groves are to be undertaken on a priority bases for conservation.

ASSESSMENT OF STATUS AND ROLE OF SACRED GROVES IN CONSERVATION OF BIODIVERSITY AT DIFFERENT LEVELS IN MADHYA PRADESH – DISTRICT DINDORI

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2. INTRODUCTION

Sacred Groves (SG's) are ancient refugia of biodiversity in forests granted protection by faiths and believes of tribals residing around them. There are scores of sacred groves worldwide, protected by almost every tribal or ethnic population wherever they reside. In India 24 million people belong to tribal groups in various states. These tribal groups on the basis of their beliefs along with varied rules and restrictions protect a patch of forests. The resources may at places be able to be used for their community benefit but not for any individual gains. These forests therefore act as natural gene pool of native flora and fauna, thus provided protection by community itself.

The importance of SG's in today's time gets more relevant when every other developmental activity in some way or the other is proving detrimental for forest resources and their habitat. Forest thinning and clearing, construction of roads, extraction of NWFP's, invasion of exotic species, habitat alteration *etc.* lead to degradation of wild areas. Although the old conservation practices based on the culture of tribals are providing protection, it is not sufficient. In the absence of any alternative methods and resources to fulfill their basic requirements of fuel, fodder and medicine, they are compelled by necessity to extract these from the very SG they are supposed to protect.

Ecological degradation and deforestation is a global phenomenon today. In India these exists thousands of pockets of landscape called as 'Sacred Groves' which are being protected religiously. These groves serve as unique examples of *in-situ* genetic resource conservation. The manifestations of nature are exhibited in the form of magnificent, ancient, arboreal plants, giant climbers and rich ground flora. The sacred groves are often described as natural museums of giant living trees, treasure house of rare, endemic and endangered species, dispensary of medicinal plants, recreation centre for urban life, garden for botanists, gene bank of economic species, paradise for nature lovers and laboratory for environmentalists. It is also mentioned in the National Action Plan on bio-diversity of the Govt. of India, Ministry of Environment and Forest, New Delhi (1997) under Chapter-2 "Bio-diversity Conservation National Policy or Goals" that Sacred groves are rich heritage of India occurring in various parts of the country and sacred groves harbour ecosystems at positive level. These would be treated as special areas deserving full protection and conservation".

Sacred groves are of great economic significance. Some of the species so preserved are already known to be of considerable value for the Pharmaceutical Industry, while others could acquire importance in the future. These green patches constitute unique example of *in-situ* conservation of our genetic resources. Such areas show micro climatic conditions with their own distinct floral and faunal values. The ethnobotanical value of sacred groves is also an important factor leading to their protection by local communities. Such indigenous ecosystems managed by traditional societies are shining examples of how our natural resources can be effectively managed. Continued conservation efforts in this direction will go a longway in promoting consciousness about the strong links between nature and religion.

Sacred groves are patches of natural vegetation dedicated to local deities and protected by religious tents and cultural traditions; they may also be anthropogenic tree stands raised in honor of heroes and warriors and maintained by the local community with religious fervor. The importance of sacred groves in conserving the local biodiversity has been acknowledged only recently, though this practice has been long back hailed by British Forester Dietrich Brandis as an example of “vernacular conservation” (Brandis and Grant,1868). Since the tropical forests have impressive species diversity contained in diverse formation types (Condit el.al. 1996), attention has been diverted to the sacred groves of the tropical tracts in the recent past.

A systematic survey of the sacred groves of India in 1997 has recorded the existence of thousands of such groves along the plains and hills of the Indian subcontinent and confirmed their floristic richness confined within islets of diverse habitats (Ramakrishan et.al. 1998). Their plant wealth and conservation potential were impressive enough to acknowledge them as “mini biosphere reserves” (Gadgil and Vartak 1975). However, the survey was largely limited to enumeration of plants only, neglecting quantitative analyses which are essential for evolving strategies for their conservation.

In India, 19 states have till date reported the presence of SG’s within their boundaries. In southern and northeastern states various studies are being carried out with regard to their status, conservation values and the interaction with communities. The southern states have reported rich biodiversity values in Sacred Groves.

A sacred grove exists in several states of India and is known by different names, such as Kavu in Kerala, Sindhravana or Devarakadu in Karnataka, Deorans or Orans in Maharashtra and Rajasthan. The area under a sacred grove can vary from a few square meters to 25 hectares or more. There are repositories of biological diversity, and are protected through religious practices such as a presence of a presiding deity.

Madhya Pradesh with a large geographical area has no published account on sacred groves. The major part of the state is unexplored in terms of biodiversity. Madhya Pradesh is also unique in having large concentration of tribal people. Major tribal districts of Madhya Pradesh with interesting flora and fauna come under the unexplored regions. Apart from this the finest sacred groves of India appears to be in the Surguja, Pachmarhi, Dindori, Ujjain, Tikamgarh and so many other districts of Madhya Pradesh. Here every village has a grove about 20 hectares. Not only plant but also animal life receives absolute protection in these groves. These serve as sanctuaries for herds of ungulates as well, and are locally known as "Sarana forests", a word which probably derives from the sanskrit "sharana" or sanctuary.

Only 10% area has been surveyed for sacred groves in our country (Jain, S.K.) Partial work has been done and listed in some areas of sacred groves in Kerala, Maharashtra, Rajasthan, Andhra Pradesh by some workers. Madhya Pradesh, with a large geographical area has no published account on sacred groves. The major parts of the state is unexplored in terms of bio-diversity. Madhya Pradesh is also unique in having large concentration of tribal people. It is now an accepted fact that the knowledge of the bio-diversity composition of any place is an essential pre-requistite for the study of various ecosystems. The sacred groves, survey work were initiated in Madhya Pradesh only by Prof. Madhav Gadgil in the Sarguja district of Madhya Pradesh. Further, no exploration work has been done in this field. The present project has plan for detailed survey of the sacred groves in the tribal area of Dindori district of Madhya Pradesh.

The groves also show the presence of rare and threatened species existing in good condition. Madhya Pradesh has 18 tribal districts with more than 65-70% population of tribals, this in itself reflects that there must be a sizeable presence of tribal conservation areas. In Madhya Pradesh, although the presence of SG's were reported way back in 1970's by Gadgil and Vartak (1974) and Gokhale *et al.,* (2001), no study was initiated to know the status and conservation values of Sacred Groves. The identification and inventorization is being done through this project for the first time.

3. OBJECTIVES

6. ***To study the status of sacred groves.***

7. ***To inventories the floral and faunal diversity.***

8. ***To study the status of endemic, rare and threatened medicinal plants in sacred grooves***

9. ***To study the traditional knowledge of natural recourses and their value***

10. ***Awareness campaign among the local people about the natural recourse and their utilization***

4. STUDY SITE

Newly formed Dindori district was carved out of Mandla district with seven blocks in Dindori and Shapura teshils. This part of the state had very dense forests in the past. The district has rugged terrain with rocky gravelly soil at places. The district is laden with small streams and tributaries of Narmada and Son rivers alongwith other small rivers. The total area of the district is 7470 km^2. It lies between the latitude 22^0 2' and 23^0 22' north and longitude 80^0 18' and 81^0 50' east with high altitude at plateaus of Chada and Chauradadar **Map – 1 & 2**.

Dindori district is situated at the eastern part of Madhaya Pradesh touching Chhattisgarh state. It touches Shahdol in east, Mandla in west, Umaria in north, and Bilaspur district of Chattisgarh State in south. It is 144 Km from Jabalpur on S.H 21, 104 Km from Mandla and 88 Km from holy place Amarkantak. It is located at 81.34 degree longitude and 21.16 degree latitude.The holy river Narmada passes through the district. It is situated at a height of 1100 m above sea level amongst herbal-rich, Maikal mountain ranges. Dindori has many historical as well as spiritual places. Some of the spiritual places are Laxman Madva, Kukarramath and Kalchuri Kali Mandir. It was created on 25th May, 1998 with total 927 villages. The district is covered in seven blocks namely Dindori, Shahpura, Mehandwani, Amarpur, Bajag, Karanjiya & Samnapur. The Baiga are very primitive tribes which found only in this district. The Baigas are known as the primitive tribe.

The major tribal groups residing in district are Gond, baiga, Maria, Bhumia, Agariya, Pardhan and Panka. The Baigas are the medicine men in most of the villages, while there are few regions where pure Baiga villages are found. The other major group is Gond. The locations of various development blocks in the districts are shown in **Map - 3.**

The district has 2 tehsils and 7 development blocks with 5,53,860 population. The detail of population status is given below;

Table 3: Block and population of Dindori district

S. No.	Name of Tehsil	Name of Development Blocks	Population
1	Dindori	1. Dindori	1,07,008
		2. Amarpur	66,447
		3. Karanjiya	75,001
		4. Samnapur	64,148
		5. Bajag	71,611
		6. Mahadwani	66,796
2	Shahpura	7. Shahpura	1,02,849
Total	**2**	**7**	**5,53,860**

Geographical aspects

M.P. has reconstituted its 16 districts from 45 districts. District Dindori is formed from the Mandla District and came into existence from 25 may 1998. It is situated in Mahakaushal region (Jabalpur Division) on the bank of the holy river Narmada at Satpura Mountains and surrounded by the 4 districts of M.P. (i.e. Jabalpur, Mandla, Shahdol & Umaria) and 2 districts of Chhattisgarh (i.e. Bilaspur & Kawardha). It has 2 subdivisions, 2 tehsils, 1 Jila panchayat.

Administrative Details

The newly formed district has geographical area as 571883 hec. Out of which forest cover is 2,13,418 hec. (37.32%), agriculture area 2,38,383 hec. (41.68%). There are 7 numbers of Blocks and Janpad Panchayats. Number of Gram Panchayats are 349 and 2 Nagar Panchayats / Towns. Total number of villages are 926 (841 Revenue Village and 85 Forest Village) with 2347 of habitations in 102 Clusters.

Historical aspects

The region was ruled by the Lodhi & Gond dynasty in the ancient time when Gond dynasty ruled the region named it as Gondwana. Rani Awanti Bai queen of Ramgarh belongs to Lodhi dynasty and Hradayshah, Sangramshah, Rani Durgawati of Gondwana dynasty are some of the well known names of that time. Historic monuments are Temple of Kukarramath, Kisalpuri & Mudiakhurd has historic importance.

Population Details

Total population of Dindori district is **5,53,860**. Out of which total Male and Female population is 290572 (50.16%) and 288740 (49.84%). The composition of Scheduled Tribes and Scheduled Castes population is 60.48% and 6%. Rural and Urban population is 97% and 3% with population density of 86/ sq km. The sex ratio of male and female is 994: 1000. District Dindori is a rural and tribal dominated district. Out of total population 97% population live in rural area and 60% are tribal i.e. Gond, Baiga, Koal, Pradhan, Dhulia, Bhoomia and Agaria tribes. Bahuvivah, Lamsena, Jadoo-Tona, Jhada-Phooki and Alcoholism are common tradition of their life. Badadev is the main god of tribes.

The economy of the district depends on forest products and agriculture. There is 37.32% area of the district is covered by Sal, Sagoun forest. Small forest products every year collected in the district like tendu patta, mahlon patta, harra-bahera-anvala & char.

Irrigation facilities are very few. Only 569 Hectare land comes under in irrigated area. Dhan, Makka, Kodo, Kutki & Oil seeds Rai, Ramtilla (Jagni) are main crops. Modern techniques of agriculture are very nominal. Therefore production rate is very low. Not a single industry lies in the district.

Overall the economy of the district is very poor and per capita income is very low. Seasonal migration of small farmers and labours occurs every year in October to November to near by other districts and other states also.

Educational status

Under District Primary Education Programme the primary school facilities provided in the district as 392 Education Guarantee Schools and 115 New Primary School. In total 507 primary education facilities increased up with already existed 869 regular govt. provided education facilities. In this way the first goal of access achieved 100%.

THE BAIGAS

The Baigas are the most primitive and interesting forest tribal of the district; but they have completely lost their language, if they ever had one, speak Hindi, and profess to scorn knowledge of Gondi. Their origin is obscure, but they are almost certainly older established than the Gonds, and while retaining their religious ascendancy over them, were gradually pressed by them into the fastnesses of Eastern Mandla, which are now their home. Their own idea of their origin closely resembles our history of the creation. Nanga and his wife Nangi, the ancestors of the whole human race, had two sons who married their sisters; from the elder of them is sprung the Baiga caste, while the younger is the progenitor of the rest of the human race. There are Baigas to be found here and there all over the district, but their principal habitat is in the recesses of the Maikal Range to the east of the District. They are the priests and wizards of the Gonds, and to some extent also of the Hindus.

Though the practice is now falling in to disuse, practically every village or group of villages in the district, whether Hindu or aboriginal, at one time had, and most still have a Baiga priest, who receives from each tenant a regular annual remuneration at the usual rate of one kuro (four of five seers) of kharif seed per plough. His duties are some-what indefinite; kharif sowings will not be undertaken until he has performed sacrifice, he is often the garpagiri or exorciser of hail, he has to purify the village in case of an outbreak of disease, for which he is also handsomely paid by the job, and he protects it generally from evil spirits. there or four years ago the educated Hindu inhabitants of Mandla town called in a Baiga priest to perform his wizardry in the case of a virulent outbreak of cholera which proved too mush for the Brahmans. On that occasion, the usual ceremony of the scape-goat and the devil cart proved unsuccessful in allaying the disease; but so great was the faith of the inhabitants in the Baiga that on his explaining that the amount first subscribed (some fifty rupees) was not sufficient, a second sum of double the amount was contributed and a second ceremony gone through.

In character, like the Gonds the Baigas are simple, honest and truthful, and when once their distrust of the stranger has been overcome, they are cheerful and companionable. But their shyness led them to such lengths in the first great famine of 1897, that many died of starvation with relief at their very doors, overlooked by their Gond and Hindu fellow village, and themselves afraid to apply; and even later when their first shyness had been overcome, it was no uncommon thing for the whole male population of a village to flee in to the jungles on the approach of a relief officer, leaving their women and children to treat with the intruder as best they might.

Settled amongst Hindus, they invariably sink to the lowest position possible, both socially and morally; for they are poor laborious and receive scant consideration. In their own communities in east Dindori, however, they hold their heads high, have a carefully arranged village community, and maintain some tradition of a quondam possession of power as a ruling race, for which however their little foundation in fact. Their villages are usually perched on some almost inaccessible crag, as down some difficult valley. The village in built in the form of a regular square with a tree surrounded by an made of earthen platform or a pile of firewood in the center, where the elders sit and discuss affairs of state. The houses, which are built of wattle and daub and thatched with grass, are small and low but neat and often ornamented with primitive drawings of tigers, elephants and pigs in gaudy colours. Those on each side of the square are contiguous and the entrance, which is only $3\text{-}^{1}/_{2}$ or 4 feet high, is usually the only face fronting the square.

The square is always kept clean and garnished by the women and though pigs and fowls are allowed to run loose, generally speaking the conservancy arrangements are

excellent. Separate from the village and at some little distance will be found the Agarias'forge, if any exists there, a shed or line of sheds open all round where the village usually congregates to watch the smelting. In person the Baigas are slighter and lighter than the Gonds, the features are less that, and the face generally finer drawn, though many of the Bharotia sub- caste are hardly distinguishable in feature form Gonds, and betray the fact that the lower sub- castes were undoubtedly at one time recruited from that race.

The scantiness of their dress is extreme. It is said that God gave their ancestor Nanga, a piece of cloth six cubits long, but Nanga tore off a piece of 1 $^{1}/_{4}$ cubit, and returned the balance as not being wanted. Now therefore a loincloth of 1 $^{1}/_{4}$ cubits, a few strings of cowries and beads, and possibly and armlet, is all the clothing a Baiga uses, even in the coldest weather; and the majority use no head covering except their own long hair. They are equal to even more sustained excerption than the Gonds, and on the most slender sustenance. Their real courage, when they are not cold, is greater than that of the Gond. A Baiga has been known to walk up to a wounded for his pains; and many instances are on record of a Baiga rescuing a companion from panthers and tigers, armed only with a club or axe.

They are expert in the use of the bow and arrow and the axe. Mr. Bell has seen a small boy with a bag of six quail as the result of a morning's work with his diminutive bow, and he himself received a wound in the leg from the axe of a Baiga glancing off the back of a mouse- deer in full flight during a beat. But their reputation as expert trackers is ill deserved; they have neither the application nor the industry necessary for successful tracking, and they cannot compare in this respect with the aboriginal of the south of the province.

Their wants from the outside world are few, consisting only of salt and the clothes they wear, their few implements of agriculture or the chase are supplied by the local smith, and their food, which is kodokutki, Baiganitur (pulse) and Shakarkand (sweet potatoes), supplemented by countless roots and fruits they obtain by their own slight excerptions. They have tittle or no idea of economy. A Baiga shikari, who was given a present of twenty-five rupees, was asked how he intended to spend so large a sum. He replied quite seriously that thirteen rupees would be given to a money- lender in satisfaction of an ancient debt, two rupees would be spent on food and clothing, and the remaining he has was going to keep for liquor at the approaching Holi festival. Falstaff could scarcely have improved on such a distribution.

The Baiga has still a contempt for regular cultivation, which is reflected in his story that God made him king of the forest, with all the wood- craft necessary to wring from the jungle the eatables wherewith of his benefit it has been stocked; where as Hindus and other such inferior persons lack this wisdom, and are chained perforce to the drudgery of cultivation. A bewar consists of from two to three acres of thick forest, often on a steep and almost precipitous slope. About May the whole of the wood is cut down and burnt in situ and the ashes spread over the surface; and on the break of the rains kodon, Kutki, Baiganitur or sweet potatoes are sown in the ashes without further preparation. Provided the rains continue late enough, a plot of this kind will continue to give excellent crops until the fourth year, when a fresh scene of operations must be sought. There is much misconception as to the amount of permanent damage done to the forests by the axe cultivation of the Baigas. They claim that the jungle only grow the thicker and stronger after the abandonment of a bewar, and they have shown not one, but fifty abandoned bewars where the sal reproduction was strong and luxuriant enough even to impede progress. It is the dahia cultivation of the Gonds, they assert, which has denuded the forests. The reason for this is that Gonds cultivate only below the line of frost. The sal once cut in those regions can only reproduce small shoots, which are destroyed by the annually recurring frosts. As frost comes as early as the middle of November, the Baiga crops, which as a rule are late ripeness, must be

sown where they will not suffer from it. The Baigas therefore choose sites the sal can freely reproduce. The Gond inflicts a permanent, the Baiga only a temporary, injury to the forests.

It is incorrect to say that the Baiga cannot be induced to take to cultivation. Doubtless their cultivation is of the poorest and most scratchy, and if they were given a free hand, many of them would possibly revert to axe cultivation. But the majority of the Baigas have now taken to plough cultivation, as perforce they must, seeing that bewar cultivation has been put a stop to everywhere both in malguzari and in Government forest, except the Baiga chak or Reservation. Here they were allowed to pursue unfettered their ancestral methods of hunting and agriculture at the rate of one rupee per axe; but side by side with this concession attempts were made to wean them to plough cultivation. In 1893 they were provided with bullocks at Government expense; and though some of these did undoubtedly in the subsequent bad times die of neglect or find their way by less legitimate means in to the Baiga cooking pots, the result has been very marked. In fact, only about one-fifth of the Baiga population of the district live in the Baiga Reserve; and of these only 74 families, in only three of the six village, now practice bewar at all. They limit their operations to an area of 292 acres, which with the necessary rotations represents a reservation for axe cultivation of 2336 acres or one- tenth of the total area of the Reserve.

There are seven sub-tribe of Baigas, viz. the Binjhwars Bharotias, Narotias, Raibhainas, Kathbhainas, Kondwans, and Gondwainas. The Binjhwars are the highest and have adopted some Hindu observances, such as abstaining from the flesh of the cow and buffalo tribe, and of reptiles and rats; and the writer recently found a case amongst Bharotias in which, while all the junior members of the family joined in a feast off the car case of a bison he had shot, the recognised head of the family was unable to do so. The Binjhwars can give food to, but will not take it from, the lower sub-tribes. In Mandla the Bharotias are the commonest; many of these shave the head except for a choti or central lock, and are known as Mundia or shaven Baigas. There is not as amongst Gonds and strict rule of exogamy in the main sub-tribes; but each sub-tribes is divided into a number of exogamous, often identical in name with the Gond steps, such as Markam, Marabi, Nelam, Tekam; and some of the sub-tribes have also partially assimilated the Gond subdivision according to the number of gods worshipped.

A baiga may not take a wife from own step or from own worshipping the same number of gods; but he may marry within his mother's step. Infant marriage is not practiced, though arrangements are sometimes made for a betrothal soon after birth, which however requires ratification by a subsequent ceremony. The girl frequently selects her own husband. The first proposal comes from the house of the bride for the marriage ceremony. It is essential that the bribe groom should meet the bride's party riding on the elephant; and this animal being now in the Baiga country somewhat less common than marriages, his part is enacted by two wooden cots lashed together and covered with a blanket; a cloth trunk is affixed in front and the whole is borne by carriers. Husband and wife may not have intercourse on a cot, because, though men may sleep on a cot, women are supposed to be compelled by the gods to lie on mother earth. Polygamy is permitted, but is not common; widows may remarry, but unless they marry their husband's younger brother.

The dead bodies are usually buried naked, with the head pointing south; but men of mark and old persons are burnt as a special honour to save them from being devoured by beasts. In the grave are placed a rupee or two and some tobacco; if the corpse is burnt, a rupee, placed in the mouth immediately before death, is recovered by the daughter from the pyre and used as an amulet. A black and white fowl are sacrificed and eaten near some nallah, a portion being set aside for the dead. A platform of earth is erected over the grave of a man of mark with a stone at the head; and here the family practice ancestor worship in time of trouble, or consign the spirit of a member who has for any reason to be buried

elsewhere. During mourning which lasts nine days, all ordinary duties are in abeyance in the household, even cooked food being supplied by neighbours.

5. METHODOLOGY

To initiate the project, the important tribal localities, pilgrim places and other biodiversity rich areas of Dindori has been identified with the help of field survey. Status survey and identification of sacred groves had made during first preliminary survey. The information related to location, climatic condition, physiographic features and importance of the area are collected and inventory of floral and faunal species were also prepared based on seasonal survey.

To assess the diversity of medicinal plants, seasonal periodical survey has been done in the sacred groves. Phytosociological studies and vegetation analysis were carried out through quadrate method. Diversity index and index dominance have been studied through Shannon & Simpson index. Status of rare and endangered medicinal plants is prepared and its degree was assessed. UNESCO model were consulted to work out the status of endangered species. IUCN red list category for evaluating the status of medicinal plants was followed as per literature.

Socio religious importance has ascertained with the help of local tribals. During the important festivals, important melas and other religious gatherings, the area were surveyed to find out the relationship of tribal people and the sacred groves. Cultural relationship is also studied to know the importance of sacred groves. Rare, endangered and threatened species were identified with the help of seasonal bio-diversity studies of the area. Wild species, plant genetic varieties of economic importance are also collected for future research.

5.1 FLORISTIC

An inventory has been prepared of collected plant specimens following simultaneously the identification of plant specimens. All the collected and inventered specimen were identified with the help Flora of Tamil Nadu" (Nair & Henry, 1983, Henry *et al.* 1987 & 1989), Flora of Bhopal (Oommachan, 1977), Flora of Jabalpur (Oommachan & Shrivastava, 1996). Name changes were confirmed from recent literature (Bennett, 1996) and finally the specimens were arranged in their respective families following the Bentham and Hooker's system of classification (1862-1883).

A list of all species found in the all sacred groves from Dindori district was prepared and arranged family wise, species wises along with specifying the rare and endangered species. According to particular habit the collected plant species were also categorized as large trees, medium trees, small trees, shrubs, climbers, parasites, epiphytes, grasses and herbs. Some economically important medicinal plants were collected in the vital form of whole plants, rhizomes, corms, bulbs and seeds for the ex-situ conservation.

5.2 ETHNOBOTANY

Initially important localities and diversity rich areas of wild medicinal plants were identified and demarcated, with the help of field survey. For Ethno-botanical studies the participation and involvement of tribal and local inhabitants were given prime importance. Potential habitats of important medicinal plants were identified. Moreover potential threats to important habitats having high diversity of medicinal plants were listed and its degree assessed. Various collection and marketing methods of minor forest produce (MFPs) were observed in this area, these were helpful in synthesizing information about current harvesting practices of medicinal plants both in the form of data and photographic record.

During seasonal sample collection ethno-botanical information was gathered from knowledge bearing persons of medicinal plants, which includes some tribal and local people. Thereafter field notes were entered in the field diary and each specimen was given a specific collection number.

Herbarium of collected plants specimen was prepared following the guidelines of Jain & Rao (1984). Simultaneously the identification of plant specimens was carried out. The specimen were identified with the help Flora of Tamil Nadu", Nair & Henry (1983), Henry *et al*. (1987); Henry *et al*. (1989) of Flora of Bhopal", Oommachand (1977), Flora of Jabalpur", Oommachan & Shrivastava (1996). Use of relevant keys, description and illustration if any was done to determine the family, genera and species. Name changes were confirmed from recent literature (Bennett, 1996) and finally the specimens were arranged in their respective families following the Bentham and Hooker's system of classification (1862-1883).

A list of all species found in the area was prepared specifying the rare and endangered species. According to particular habit the collected plant species were also categorized as large trees, medium trees, shrubs, climbers, parasites, epiphytes, grasses and herbs. Some economically important medicinal plants were collected in the vital form of whole plants, rhizomes, corms, bulbs and seeds for the ex-situ conservation. These plants and plant parts were kept in the medicinal plant gene bank of State Forest Research Institute (SFRI) Jabalpur for future research and reference. During the course of survey about 140 plant species samples were collected and their status was measured using various phytosociological methods as given by Mishra (1968). A list of all species found in the areas was prepared keeping in the view the IUCN list of endangered and rare species. For the species coming under these categories important information related to location, climatic conditions, and physiographic features of the area were collected.

5.3 PHYTOSOCIOLOY

The Phytosociological studies of medicinal plants were done by following standard ecological methods of Mishra (1968) and Smith (1980) by laying quadrates in different localities of the sacred groves. Selection of sites for samplings was done by random sampling procedure, quadrtes of 40 x 40m size were laid down in various potential areas of sacred groves following Nautial *et al.* (1987). This was done to get maximum representation of different potential areas. The girth at breast height (gbh.) of all trees above 20 cm gbh in each 40 x 40m size quadrat was measured and recorded species wise following Parthasarthi & Karthikeyan (1997). 2 quadrates each of size 10 x 10 m were laid under the 40 x 40m size quadrates for sampling of shrub species, while 3 quadrates each of size 1 x 1m were also laid under the 10 x 10m size quadrates for ground flora enumeration.

The IVI of the important species were calculated by summation of frequency, density and abundance. The various formulas used in the study are:

$$\text{Density} = \frac{\text{No. of individuals per species}}{\text{Area of ha. Plot}}$$

$$\text{Relative Density} = \frac{\text{Density of a species}}{\text{Density of all species}} \times 100$$

$$\text{Frequency} = \frac{\text{No. of plots in which species occur}}{\text{}}$$

Total No. of plots

Relative frequency = $\frac{\text{Frequency of a species}}{\text{Frequency of all species}} \times 100$

Dominance = $\frac{\text{Area of Canopy covering / Basal area of a sp.}}{\text{Area of sample plot}}$

Relative dominance = $\frac{\text{Dominance of a species}}{\text{Dominance of all species}} \times 100$

IVI = Relative density + Relative frequency + Relative dominance

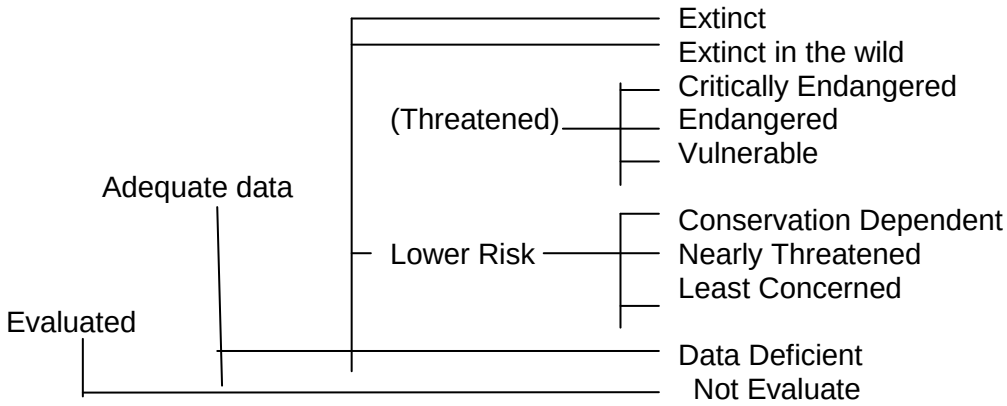
Diversity Index H = Shannon Wiener Index $= -\Sigma \left(\frac{ni}{N}\right) \log \left(\frac{ni}{N}\right)$

Where H = Shannon Index
ni = Number of Species
N = Total number of individuals
Log implies to log base 10.

INVENTORY OF RARE AND ENDANGERED MEDICINAL PLANTS

Inventory of rare and endangered medicinal plants have been prepared based on seasonal survey and available field information. Potential threats to each habitat having high diversity in medicinal and aromatic plants are listed and its degree was assessed. UNESCO model are consulted to work out status of the endangered species. IUCN Red list categories for evaluating the status of medicinal plants have been followed as per given below:

IUCN RED LIST CATEGORIES



6. OBSERVATIONS AND DISCUSSION

6.1 STATUS OF SACRED GROVES

On the bases of survey done for the identification of sacred groves in Dindori district a total of 18 sacred groves are listed (**Table 4)**. They were identified on the basis of the beliefs of the tribals in these places as well as their faith in the deity they identify at this place. At least 50% of these places are still in very good condition and can provide a very good *in situ* conservation site for threatened species as well as habitat. One of the most important feature found at Sacred Groves almost these areas have a perennial water source within the very premises of worship while at other places the water body is present every near to them. The other important aspect is the presence of some threatened species especially trees.

Table – 4: Details of Sacred Groves found in Dindori District

S. No.	Name of SG	Tehsil	Name of nearest village	Size	Major tree associate	Deity involved
1	Amajhiria	Dindori	Jagatpur	>100m	Saj, Sarai, bar, Pakri, Kosum,	Bholenath, Budimata
2	Amoleshwar	Shahpura	Danitola	> 2km^2	Kosum, Peepal, Sal, Jamun, Bel	All deities
3	Babadongri	Dindori	Amadongri	<100m	Sal, Belpalas, Harra, Dhanbahar	Siddha baba
4	Babagupha	Dindori	Raksintola	<100m	Sal, Saj,Kosum, Jatashankari	Budi mata
5	Banjari	Dindori	Chada-Tarach	> 100m^2	Sal, Saj, Kosum, Dhawa, Ghari, Vidarikand	Banjari mata
6	Belghat	Dindori	Nawatola	>500m	Bel,Semal, Aonla, Jamun, Peepal	Narmada maiya, Siddha baba
7	Dagona	Samnapur		>100m	Bel, Ber, Jamun, Mahua, Sal	Budi maiya
8	Devidand	Dindori	Pandripani	>1km^2	Sal, Saj, Semal, Harra, Atut, Mahua	Hanuman
9	Madiya	Dindori	Thadpathra	10m	Ghari, Oberonia, Rhyncostylis	Kher mata, Thakurdeo
10	Maharishi	Dindori	Phitari	>5km^2	Tado, Kirangi, Semal, Katsemar, Narisaya	Rishi muni
11	Padaria dongri	Dindori	Padaria, Neem tola	100m	Bahera, Harra, Sal, Mahua	Siddha baba
12	Saranggarh	Dindori	Angai-Srangpur	<50m	Ghui, Tado, Palas, Harra,	Mahavir

					Jamun, Dumar	

13	Sharda Mandir	Dindori	Shahpura	>100m^2	Peepal, Neem, Bad, Aonla, Palas	Sharda mata, Siddha baba
14	Siddha baba	Dindori	Jagatpur	50-100m	Aam, Jamun, Sal, Bargad, Mundi, Kosum	Siddhababa
15	Siddha baba	Dindori	Bondar	50-100m	Kosum, Dumar, Bel, Jamun, Semar	Siddhababa
16	Siddha baba	Dindori	Narigwara	50-100m	Jamun, Khassi, Semar, Sal, Kosum, Bahera	Siddhababa
17	Siddhababa	Dindori	Amadongri, Amatola	50m	Jatropha, Laxman buti	Siddhababa
18	Thakurdeo	Dindori	Tatar	100m	Peepal, Neem, Bad, Aonla	Bada deo

The identified groves were of various size groups, i.e. 10m^2, 10-50m^2, >50m^2, 50-100m^2, >100m^2. They were devoted to different deities such as Banjari mata, Budi mata, Thakur deo, Bada Deo, Mahadev, Narmada maiya *etc*., From the names of the deity we can understand that they revere all natural gods. Banjari mata is the protector of forests. They worship river Narmada as a goddess Narmada maiya, while Bada deo is none other than Mahadev or Lord Shiv. All their beliefs are related with their interaction, dependence and reverence for the nature and its produce. The fundamental principle behind the concept is seen very much in place in this part of the state.

Figure - 1 shows the occation of worship in the sacred groves. The analysis of data reveals that 18 sacred groves are worshiped during every ferstival. Whereas 9, 6 and 1 sacred groves are specifically worshiped during the Navratri, Prurnuma / Amavashya and Sankranti. 2 sacred groves are worshiped more than 2 times in area during Ramnavmi and Navratri.

The existence of 18 (79%) sacred groves are 50 years old or more than that. Only one sacred grove is exist from more than 30 years, it means that most of the sacred groves in natural forested areas are exist since 2 to 3 decds (Figure – 2).

6 sacred groves are identified at the distance of 3 kms. from the nearby village. 3 sacred groves are found more than 4 kms., 3, from 1.5 kms and 5, from 2 kms. away from the nearby village (Figure – 3).

The detail profiles of all the sacred groves are given as follows;

Sacred Grove - 1

Name of Sacred Grove	Amajhiria
Area	>100 m^2
District	Dindori
Tehsil	Dindori
Forest Range	Karangia
Near by Village	Jagatpur
Population	500
Water bodies	Laxmankund
Tribe composition	Lohar, Gond, Pankha, Beiga
Location of Sacred Grove	On the side of Shukram yadav house.
Distance from District Head Quarter	9Km
Near by village	4Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Bhola baba
Other Deity if any	***Budimaya***
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal, Supari, Agarbatti
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Navaratri
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navarati
Plants and its associates	Saja, Sarai, Jam, Ber, Pakari, Sure, Kosum, Padpadi, Gulkawli, Janglihaldi, Fern, Sinduri, Keoti, Bootikand, Kalimusali, Safedmusali, Elephantophus, Commelalina.

Sacred Grove - 2

Name of Sacred Grove	Amoleshwar
Area	2000 m^2
District	Dindori
Tehsil	Shapura
Forest Range	Shapura
Near by Village	Danitola
Population	400
Water bodies	Laxman kund.
Tribe composition	Lohar, Gond, Pankha, Beiga
Location of Sacred Grove	In a George near by village
Distance from District Head Quarter	10Km
Near by village	4Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Bhola nath
Other Deity if any	***Budimaya***
Name of Guniya / Priest	Bacchu maharaj
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal, Supari, Agarbatti
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Ramnavami
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navarati
Plants and its associates	Pipal, Ber, Jamun, Nimbu, Ganja, Mahua, Tendu, Saja, Semal, Gulbans, Chirchara, Kalihaldi, Rasadaal, Gulbakawali, Morepankhi,Jungali mint, Mandookparni, Pipal, Mahaneem, Junglibhata, Anti

Sacred Grove - 3

Name of Sacred Grove	Baba gupha
Area	>100 m^2
District	Mandla
Tehsil	Mandla
Forest Range	Bajag
Near by Village	Raksintola
Population	400
Water bodies	Budmer river
Tribe composition	Lohar, Gond, Pankha, Beiga
Location of Sacred Grove	Budmer river inside
Distance from District Head Quarter	6Km
Near by village	3Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	***Budimaya***
Other Deity if any	***Nill***
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Trishul, Nariyal, Supari
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Navratri
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Dushera, Navrati
Plants and its associates	Koshum, Anola, Teak, Dhawa, Gunja, Tendu, Lendia, Saja, Dudhi, Jatashankari, Vadarikand, Dukarbel, Bichandi

Sacred Grove - 4

Name of Sacred Grove	Babadongari
Area	>100 m^2
District	Dindori
Tehsil	Dindori
Forest Range	Bajag
Near by Village	Sani baghrdi
Population	800
Water bodies	Chakrar river
Tribe composition	Lohar, Gond, Pankha, Beiga
Location of Sacred Grove	On the Top of the hills
Distance from District Head Quarter	5Km
Near by village	2Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Sidha baba
Other Deity if any	***Nil***
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Trishul, Nariyal ,Supari, Ganja, Chimata
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Navratri
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Makarsakaranti
Plants and its associates	Dhawa, Beeja, Lendia, Peepal, Garari, Teak, Tendu, Neem, Char, Sithaphal, Bel, Nirgundi, Buatea, Aam, Dhawai, Ghar,Laksman buti, Jatropha.

Sacred Grove -

Name of Sacred Grove	Chada
Area	<50 m^2
District	Dindori
Tehsil	Bajag
Forest Range	Bajag
Near by Village	Chada, Tarach
Population	600-800
Water bodies	Nil
Tribe composition	Gond, Beiga
Location of Sacred Grove	Behind Chada village
Distance from District Head Quarter	6Km
Near by village	3Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Banjarimata
Other Deity if any	***Budimaya***
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Pebbeles, Nariyal , Ganna, Fruit
Any devotional Song / Dance	Ramdhun
Entry Freedom	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Navratri
Rules followed for conservation of sanctity and biodiversity	Enter only friday
On the Festival	Navrati / Makarsakaranti
Plants and its associates	Ghari, kosum, Dhawa, Saja, Sal, Tendu, Narisaya, pedhin, Vadarikand, Jam, Aam, Semal, Adaantium, Elephantophus, Dioscorea Dhoto bel khari, Tinsa, Harra,Behera,Vadarikand.

Sacred Grove - 6

Name of Sacred Grove	Dagona
Area	>100 m^2
District	Dindori
Tehsil	Samanapur
Forest Range	Samanapur
Near by Village	Dagoni / Gauraka
Population	500-600
Water bodies	Budmer river
Tribe composition	Gond, Beiga
Location of Sacred Grove	Budmer river inside
Distance from District Head Quarter	6Km
Near by village	1.5Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Budimaya
Other Deity if any	***Nil***
Name of Guniya / Priest	Kumahari bai
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal, Pebbeles, Ganna, Fruit
Any devotional Song / Dance	Ramdhun / Shivratri mela
Entry Freedom	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Ramnavami
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navrati
Plants and its associates	Khair, Neeem, Lyptis, Kaner, Bhihi, Asoca, Saja, Mahua, Pipal

Sacred Grove - 7

Name of Sacred Grove	Devidand
Area	>100 m^2
District	Dindori
Tehsil	Bajag
Forest Range	Bajag
Near by Village	Pandaripani
Population	500
Water bodies	Shivni river
Tribe composition	Lohar, Gond, Pankha, Beiga
Location of Sacred Grove	In a plain ground
Distance from District Head Quarter	6 Km
Near by village	3 Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Ganesh, Hanuman
Other Deity if any	***Nill***
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Trishul, Nariyal, Supari.
Any devotional Song / Dance	Ramdhun / Shivratri mela
Entry Freedom	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Ramnavami
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navrati
Plants and its associates	Ghari, kosum, Dhawa, Saja, Sal Tendu, Karonda, Keokand, Satavar,Gunja Tikhur,Jam, Aam, Semal, Adaantium, Elephantophus, Dioscorea Dhoto bel, khari, Tinsa, Harra, Behera, Vadarikand.

Sacred Grove - 8

Name of Sacred Grove	Kishangari
Area	50 m^2
District	Dindori
Tehsil	Samanapur.
Forest Range	Samanapur.
Near by Village	Dagoni Gauraka
Population	500-600
Water bodies	Budmer
Tribe composition	Gond, Beiga
Location of Sacred Grove	Budmer river inside
Distance from District Head Quarter	8km
Near by village	1.5 Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Budimaya
Other Deity if any	Kishan baba
Name of Guniya / Priest	all villagers
Type of Sacred Groove:	Collective
Patron Assistant	Collective
Kind of Offerings	Pebbles, Narial, Ganna, Fruit
Any devotional Song / Dance	Ramdhun
Entry Freedom: Y/N	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Navaratri
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navrati / Maskarsakaranti
Plants and its associates	Pipal, Ber, Jamun, Nimbu, Ganja, Mahua, Tendu, Saja, Semal

Sacred Grove - 9

Name of Sacred Grove	Maharashi
Area	5000 m^2
District	Dindori
Tehsil	Bajag.
Forest Range	Bajag.
Near by Village	Phitari.
Population	600
Water bodies	Katangai
Tribe composition	Dhobi, Patel, karigar
Location of Sacred Grove	East of Ptritari
Distance from District Head Quarter	8km
Near by village	5Km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Sidhbaba
Other Deity if any	Nill
Name of Guniya / Priest	All villagers.
Type of Sacred Groove:	Collective
Patron Assistant	Collective
Kind of Offerings	Trishul, Nariayal, Supari, Ganja ,Chamita.
Any devotional Song / Dance	Jas jawari song
Entry Freedom: Y/N	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Navaratri
Rules followed for conservation of sanctity and biodiversity	Cannot enter with shoes
On the Festival	Navratra
Plants and its associates	Kanghi, Gayaphal, Semal, Katsemer, Gathba, Patwan, Neem, Mahul, Mahanem, Girchi, Jatashankari, Padhin, Ghemara, Moti, Narisaya, Badaaukhat, Thor, Senduri, Sarai, Jamun, Keoti, Ladhia, Ranibhajra, Raksin,

Sacred Grove - 10

Name of Sacred Grove	Padera dongri
Area	100 m^2
District	Dindori
Tehsil	Bajag.
Forest Range	Bajag.
Near by Village	Neemtola / amadongari
Population	600
Water bodies	Pond
Tribe composition	Lohar, Gond, Pankha, Beiga
Location of Sacred Grove	Near a pond on a small hills top
Distance from District Head Quarter	5 km
Near by village	2 km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Sidh baba
Other Deity if any	Nill
Name of Guniya / Priest	All villagers.
Type of Sacred Groove:	Collective
Patron Assistant	Collective
Kind of Offerings	Trishul, Nariayal, Supari, Ganja ,Chamita.
Any devotional Song / Dance	Ramdhun
Entry Freedom: Y/N	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Navaratri
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navaratra, Makarsankaranti
Plants and its associates	Pipal, Ber, Jamun, Nimbu, Ganja, Mahua, Tendu, Saja, Semal

Sacred Grove - 11

Name of Sacred Grove	Sarangarh.
Area	>50 m^2
District	Dindori
Tehsil	Bajag.
Forest Range	Bajag.
Near by Village	Angai, sarangpur
Population	800
Water bodies	Pond.
Tribe composition	Gond, Beiga.
Location of Sacred Grove	Near a pond on a small hills top
Distance from District Head Quarter	6 km
Near by village	3 km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Mahavair.
Other Deity if any	Shivmandir
Name of Guniya / Priest	Bhawani.
Type of Sacred Groove:	Collective
Patron Assistant	Collective
Kind of Offerings	Diya, Agarbatti ,Medha prasad.
Any devotional Song / Dance	Ramdhun
Entry Freedom: Y/N	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Navaratri
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navaratri /Makarsakaranti.
Plants and its associates	Dhawa, Beeja , Palas, Lendia, Peepal, Garari, Teak, Tendu, Neem, Char, Sithaphal, Bel, Nirgundi, Butea, Aam, Dhawai, Ghar,Laksman buti, Jatropha

Sacred Grove - 12

Name of Sacred Grove	Sharda mandir.
Area	>100 m^2
District	Dindori
Tehsil	Shahpura.
Forest Range	Shahpura.
Near by Village	Shahpura.
Population	1000.
Water bodies	Pond.
Tribe composition	Lohar, Gond, Pankha, Beiga.
Location of Sacred Grove	On a hill top ahead of Shahapura
Distance from District Head Quarter	3 km
Near by village	1.5 km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Shardadevi .
Other Deity if any	Shivji, mahavir, Mansadevi.
Name of Guniya / Priest	Jitendra maharaj.
Type of Sacred Groove:	Collective
Patron Assistant	Collective
Kind of Offerings	Nariyal, Supari, Sindur, Dhawaj
Any devotional Song / Dance	Ramdhun.
Entry Freedom: Y/N	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Ramnavami
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navratri.
Plants and its associates	Peepal, Teak, Aam, Gulhamoohar, NeemBad, Anola, Kaner, Ghari, Char, Tinsa Pentaphoram, Jamun, Karanj, Bhedi, Acacia, Mahua, Nycantanthes, Kosum, Lantana, Dhawai, Karonda, Ber

Sacred Grove - 13

Name of Sacred Grove	Siddhja baba Tatar
Area	>50 m^2
District	Dindori
Tehsil	Dindori
Forest Range	Karangia
Near by Village	Jagatpur
Population	600
Water bodies	Kund .
Tribe composition	Dhobi, Ahir, Kol, Agaria, Chamar
Location of Sacred Grove	1/2KM from Road at the origin of pipeline.
Distance from District Head Quarter	4 km
Near by village	2km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Sidha baba
Other Deity if any	Nill.
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective
Patron Assistant	Collective
Kind of Offerings	Chamatia, Trishul,
Any devotional Song / Dance	Ramdhun
Entry Freedom: Y/N	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	All festival
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navaratra, Baishak
Plants and its associates	Aam, Jamun, Sal, Saja, Bargad, Mundi, Mahua, Kosum, Dhanbahar, Padpari,Tendu, Dokarbel,Gulkabali, Buch, Kuchai, Mohti, Dumar, Fern, Keoti, Alianthium, Dryopteries, Anjan, Elenthopapus, Jungali gajar, Commelina, Dioscorea, Dioscorea triphylla, Triumfetta, Kalimusli

Sacred Grove - 14

Name of Sacred Grove	Sidha baba
Area	100 m^2
District	Dindori
Tehsil	Dindori
Forest Range	Karangia
Near by Village	Bondor
Population	400.
Water bodies	Kund
Tribe composition	Dhobi,Ahir.
Location of Sacred Grove	East of road from Bondor
Distance from District Head Quarter	5 km
Near by village	3 km
Year of existence	More than 50 years
Tradition (Manyata)	Wish are true whose cattle are lost
Name of Deity	Sidhbaba
Other Deity if any	Nill.
Name of Guniya / Priest	All villagers.
Type of Sacred Groove:	Collective
Patron Assistant	Collective
Kind of Offerings	Nariyal ,Supari, Agarbatti, ata ka prasad
Any devotional Song / Dance	Ramdhun
Entry Freedom: Y/N	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Purnama, Amawas
Rules followed for conservation of sanctity and biodiversity	No entry for drunk person
On the Festival	Navratri.
Plants and its associates	Kari, Jam, Bel, Dumar, Bahera, Saja, Kosum, Lokhandi, Tendu, Anola, Semar, Rori, Amahaldi,Kalimusali, Amorphlus,

Sacred Grove - 15

Name of Sacred Grove	Thadpathra ki madiya.
Area	50 m^2
District	Dindori
Tehsil	Dindori
Forest Range	Bajag
Near by Village	Tatar
Population	400
Water bodies	Nill
Tribe composition	Gond, Beiga.
Location of Sacred Grove	On the Top of the hills.
Distance from District Head Quarter	6 km
Near by village	2 km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Kher maharani
Other Deity if any	Thakur deo
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective
Patron Assistant	Collective
Kind of Offerings	Nariyal, Supari, sindhur, Dhawaj
Any devotional Song / Dance	Ramdhun
Entry Freedom: Y/N	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Navaratri
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navrati / Makarsakaranti.
Plants and its associates	Ghari, Kosum, Dhawa, Saja, Sal, Tendu, Narisaya

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Sacred Grove - 16

Name of Sacred Grove	Thakurdeo
Area	100 m²
District	Dindori
Tehsil	Dindori
Forest Range	Bajag
Near by Village	Taatar
Population	500
Water bodies	Dandla nadi
Tribe composition	Lohar, Gond, Pankha, Beiga
Location of Sacred Grove	Out side the village
Distance from District Head Quarter	7 km
Near by village	3 km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Kher mata
Other Deity if any	Thakurdeo
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal ,Supari, Sindhur,Dhawaj
Any devotional Song / Dance	Ramdhun
Entry Freedom: Y/N	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Ramnavami
Rules followed for conservation of sanctity and biodiversity	No cutting of trees
On the Festival	Navrati
Plants and its associates	Dhawa, Beeja, Lendia, Peepal, Garari, Teak, Tendu, Neem, Char, Sithaphal, Bel, Nirgundi, Buatea, Aam, Dhawai, Ghar,Laksman, Buti, Jatropha.

Sacred Grove - 17

Name of Sacred Grove	Upka
Area	100 m^2
District	Dindori
Tehsil	Dindori
Forest Range	Samanapur
Near by Village	Tatar
Population	500
Water bodies	Budmer river
Tribe composition	Dhobi, Ahir, Pradhan
Location of Sacred Grove	Budmar river in side
Distance from District Head Quarter	6 km
Near by village	1 km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Budimata
Other Deity if any	Nil
Name of Guniya / Priest	Sharasaran
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Pebbles, Nariyal, Supari, Ganna, Fruit
Any devotional Song / Dance	Ramdhun
Entry Freedom: Y/N	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Navarati
Rules followed for conservation of sanctity and biodiversity	Som, Budh, Sukra
On the Festival	Makarsakaranti
Plants and its associates	Pipal, Ber, Jamun, Nimbu, Ganja, Mahua, Tendu, Saja, Semal, Gulbans, Chirchara ,Kalihaldi, Rasadaal, Gulbakawali, Morepankhi, Jungali mint, Mandookparni, Pipal, Mahaneem, Junglibhata, Anti

Sacred Grove - 18

Name of Sacred Grove	Banjari
Area	40 m^2
District	Dindori
Tehsil	Dindori
Forest Range	Chada
Near by Village	Chada
Population	100-200
Water bodies	Nil
Tribe composition	Lohar, Gond, Pankha, Beiga
Location of Sacred Grove	Near village chada
Distance from District Head Quarter	9 km
Near by village	2 km
Year of existence	More than 50 years
Tradition (Manyata)	Every kind of wish can true
Name of Deity	Banjarimata
Other Deity if any	Nill
Name of Guniya / Priest	All villagers
Type of Sacred Groove:	Collective /Family/Clan-one
Patron Assistant	Collective
Kind of Offerings	Nariyal ,Supari, Agarbatti
Any devotional Song / Dance	Ramdhun
Entry Freedom: Y/N	Yes
Any specific day	Yes
Day of Worship	Daily
Time of Worship	Ramnavami
Rules followed for conservation of sanctity and biodiversity	Enter only Friday
On the Festival	Navrati
Plants and its associates	Teak, Mundi, Ghari, Dhawa, Saja ,Ledia, Bhedri,Tendu, Anola, Carria, Dhawai, Neem, Mahaneem,Gardenia, Bans, Nirgundi, Mahua, Lendia, Bel, Gunja..

6.2 FLORISTIC COMPOSITION AND PLANT DIVERSITY

All the Sacred Groves form districts Dindori of Madhya Pradesh have been surveyed and inventory of plant diversity were prepared. Total 126 plant species belonging to 52 families arranged alphabetically with their local name, family name and habit are given in **Table – 6**. The colleced data reflects richness of floral as well as medicinal plants diversity. Availability of plants and associated floristic composition, which is one of the major charachtersitic is distinguishing plants community, varied depending upon sites and other environmental conditions.

Table – 6: List of species present in the sacred groves of district Dindori

S. No.	Botanical Name	Family	Habit
1	*Abutilon glaucum Sw.*	Malvaceae	S
2	*Achyranthus aspera*	Amaranthaceae	H
3	*Adhatoda vasica Nees*	Acanthaceae	S
4	*Adiantum lunulatum*	Adiantaceae	H
5	*Aegle marmelos*	Rutaceae	T
6	*Aerva lanata*	Amaranthaceae	H
7	*Agave sissalana*	Agavaceae	H
8	*Albizia lebbeck*	Papilionaceae	T
9	*Andrographis paniculata (Burm.F) Wall.*	Acanthaceae	S
10	*Anogeissus latifolia*	Combretaceae	T
11	*Antidesma diandrum (Roxb) Roth.*	Euphorbiaceae	H
12	*Argemone maxicana*	Papaveraceae	H
13	*Aristolochia elegans Mast.*	Aristolochiaceae	C
14	*Aristolochia indica Linn*	Aristolochiaceae	C
15	*Arthraxon ciliaris*	Poaceae	G
16	*Asparagus racemosus Willd.*	Liliaceae	C
17	*Azadirachta indica*	Meliaceae	T
18	*Bambusa arundinacea*	Poaceae	G
19	*Bauhinia malabarica Roxb.*	Ceasalpiniaceae	T
20	*Bauhinia racemosa*	Ceasalpiniaceae	T
21	*Bauhinia vahlii*	Ceasalpiniaceae	WC
22	*Boerhavia diffusa*	Nyctaginaceae	H
23	*Bombax ceiba*	Bombacaceae	T
24	*Boswellia serrata*	Burseraceae	T
25	*Bridelia retusa*	Rubiaceae	T
26	*Buchanania lanzan*	Anacardiaceae	T
27	*Butea monosperma*	Papilionaceae	T
28	*Butea monosperma (Lam). Toub.*	Papilionaceae	T
29	*Butea superba Roxb.*	Papilionaceae	C
30	*Calotropis gigantea*	Asclepiadaceae	H
31	*Careya herbacea*	Apocynaceae	T

32	*Carissa opaca*	Apocynaceae	ST
33	*Cassia fistula*	Ceasalpiniaceae	T
34	*Cassia tora*	Papilionaceae	H
35	*Catharanthus roseus*	Apocynaceae	H
36	*Chlorophytum arundinaceum*	Liliaceae	H
37	*Chloroxylon swietenia DC.*	Liliaceae	H
38	*Colocasia Indica L.*	Zingiberaceae	H
39	*Costus speciosus (Koen) Smith.*	Liliaceae	H
40	*Curculigo orchiodes*	Hypoxidaceae	H
41	*Curcuma angustifolia*	Zingiberaceae	H
42	*Curcuma angustifolia Roxb.*	Zingiberaceae	H
43	*Curcuma aromatica*	Zingiberaceae	H
44	*Curcuma caesia Roxb.*	Zingiberaceae	H
45	*Cyperus scariosus*	Cyperaceae	H
46	*Daedalacanthus purpurascens T. Anders*	Poaceae	H
47	*Dalbergia latifolia*	Fabaceae	T
48	*Dendrocalamus strictus*	Poaceae	G
49	*Dendrocalamus strictus (Roxb.) Nees.*	Poaceae	G
50	*Desmodium triflorum (L.) DC.*	Papilionaceae	H
51	*Dillenia pentgayna*	Dillenaceae	T
52	*Dioscorea bulbifera*	Dioscoreaceae	C
53	*Dioscorea daemona Roxb.*	Dioscoreaceae	C
54	*Dioscorea hispida*	Dioscoreaceae	C
55	*Dioscrea bulbifera L.*	Dioscoreaceae	C
56	*Diospyros melanoxylon*	Ebenaceae	T
57	*Eclipta alba*	Asteraceae	H
58	*Elephanthopus scaber*	Asteraceae	H
59	*Elephantopus scaber L.*	Asteraceae	H
60	*Embelia basaal*	Menispermaceae	ST
61	*Eranthemum purpurascens Nees.*	Acanthaceae	H
62	*Eulaliopsis binata (Retz.) C.E. Hubb*	Poaceae	G
63	*Euphorbia hirta*	Euphorbiaceae	H
64	*Ficus benghalensis*	Moraceae	T
65	*Ficus glomerata*	Moraceae	T
66	*Ficus religiosa*	Moraceae	T
67	*Flacourtia indica*	Flacourtiaceae	T
68	*Flemangia semialata (Roxb.) ex Ail*	Fabaceae	S
69	*Flemingia strobilifera (L.)R. Br.*	Fabaceae	S
70	*Gardenia latifolia*	Rubiaceae	T
71	*Gardenia latifolia Ait.*	Rubiaceae	T
72	*Gloriosa superba*	Liliaceae	C
73	*Grewia hirsuta*	Tiliaceae	ST
74	*Hedychium coronarium*	Zingiberaceae	H

75	*Helicteres isora*	Sterculiaceae	T
76	*Hemidesmus indicus (L.)R. Br.*	Asclepiadaceae	H
77	*Hisbiscus rosa sinensis*	Malvaceae	ST
78	*Holarrhena antidysentrica*	Asclepiadaceae	T
79	*Holoptelea integrifolia*	Ulmaceae	ST
80	*Indigofera oblongifolia Forsk.*	Paplionaceae	H
81	*Ipomoea batata*	Convolvulaceae	C
82	*Jatropha curcas*	Euphorbiaceae	ST
83	*Lagerstoemia parviflora*	Lythraceae	T
84	*Lannea coromandelica*	Anacardiaceae	T
85	*Lantana camara*	Asteraceae	ST
86	*Lawsonia alba Lamk.*	Lythraceae	S
87	*Loranthus longifloris Desr.*	Loranthaceae	C
88	*Mallotus phillipensis*	Euphorbiaceae	T
89	*Mangifera indica*	Anacardiaceae	T
90	*Melia azadirach*	Meliaceae	T
91	*Merremia emarginata*	Convolvulaceae	H
92	*Mucuna pruriens (L.) DC.*	Papilonaceae	C
93	*Nyctanthes arbor-tristis*	Nyctanthaceae	T
94	*Olax scandens Roxb.*	Olacaceae	S
95	*Pennisetum alopecurus (Steud.)*	Poaceae	G
96	*Peristrophe bicalyculata (Retz.)Nees.*	Acanthaceae	H
97	*Phoenix acaulis*	Arecaceae	H
98	*Phyllanthus emblica*	Euphorbiaceae	T
99	*Plumbago zeylancia Linn*	Plumbagenaceae	S
100	*Polygonum glabrum*	Polygonaceae	H
101	*Ricinus communis*	Euphorbiaceae	T
102	*Rubia cordifolia*	Rubiaceae	C
103	*Schrebera swietenioides Roxb.*	Rubiaceae	T
104	*Shorea robusta*	Dipterocarpaceae	T
105	*Sida acuta*	Malvaceae	H
106	*Smilax zeylanica*	Liliaceae	WC
107	*Solanum indicum*	Solanaceae	H
108	*Sphaeranhthus indicus L.*	Asteraceae	H
109	*Syzygium cumini*	Myrtaceae	T
110	*Syzygium heyneanum*	Myrtaceae	T
111	*Tamarindus indicus*	Anacardaceae	T
112	*Tectona grandis L.F. Suppl.*	Verbinaceae	T
113	*Terminalia arjuna*	Combretaceae	T
114	*Terminalia arjuna (DC). Wight & Arn.*	Combretaceae	T
115	*Terminalia chebula*	Combretaceae	T
116	*Tridax procumbens Linn.*	Asteraceae	H
117	*Tridex procumbens*	Asteraceae	H

118	*Uraria lagopoids Devs.*	Legumenaceae	H
119	*Uraria picta (Jacq) Desv. ex DC.*	Legumenaceae	H
120	*Vanda tassetacea*	Orchidaceae	Ep
121	*Ventilago denticulata*	Rhamnaceae	WC
122	*Wendlandia exserta D.C.*	Rubiaceae	T
123	*Wrightia tinctoria (Roxb.) R. Br.*	Apocynaceae	T
124	*Xanthium strumarium Roxb.*	Asteraceae	H
125	*Ziziphus jujuba*	Rhamnaceae	T
126	*Ziziphus nummularia*	Rhamnaceae	T

Collected data revealed that (Table - 7) 46 large sized trees, 7 small trees, shrubs 7, 43 herbs, 13 climbers, woody climbers 3, 6 grasses and 1 epiphytes are identified from the different sacred groves.

Table – 7 : Number of plants under different habits

Habit	***No. of Plants***
C	13
Ep	1
G	6
H	43
S	7
ST	7
T	46
WC	3

Among the total 52 families found in the study sites 26 families were mono typic species as they have only one species. Accordingly 7 families having only 2 species. Whereas 5 families having 3 species, 6 families 4 species, 4 families only 6 species, 1 families is having 7 species and 2 families having 8 speies (Table – 8).

Table - 8: Name of family and number of species

No. of Species	**Family**
1 species	26
2 species	7
3 species	5
4 species	6
6 species	4
7 species	1
8 species	2
Total	**52**

The status of ten dominant families determined from the study sites (Table – 9), stated that Paplionaceae is the most dominant family and holds the first position with 8 species follwed by Asteraceae 8 species. The other major dominant families from third position to thenth position are Poaceae, Zingiberaceae, Liliaceae, Euphorbiaceae, Rubiaceae, Discoriaceae, Combretaceae and Ceasalpiniaceae with 7, 6, 6, 6, 6, 4, 4 and 4 species respectively.

Table - 9: Status of Ten dominant family

Position	No. of Plants	Name of family
I	Papilonaceae	8
II	Asteraceae	8
III	Poaceae	7
IV	Zingiberaceae	6
IX	Combretaceae	4
V	Liliaceae	6
VI	Euphorbiaceae	6
VII	Rubiaceae	6
VIII	Disocoreaceae	4
X	Ceasalpiniaceae	4

6.4 PLANT DIVERSITY INDEX

Total 55 tree species were recorded from the area. **Table – 10** shows the findings of obsevation determined with reference to frequency %, density ha^{-1}, basal area m^2 ha^{-1}, IVI and diversity index of all 55 tree species. The total density ha^{-1} in this area was recorded to be 363 trees ha^{-1} out of which the species namely ***Lagerstoemia parviflora***, ***Boswellia serrata*** and ***Lannea coromandelica*** were represented by 69 trees ha^{-1}, 54 trees ha^{-1} and 40 trees ha^{-1} respectively. The total basal area m^2 ha^{-1} occupied by the total tree species is 21.18 m^2 ha^{-1} of which the maximum values were found for species ***Boswellia serrata*** (4.32 m^2 ha^{-1})***, Lannea coromandelica*** (3.06 m^2 ha^{-1}) and ***Lagerstoemia parviflora*** (2.64 m^2 ha^{-1}). The highest IVI values was calculated for ***Boswellia serrata*** (IVI – 41.80%)***, Lagerstoemia parviflora*** (IVI – 38.63%) and ***Lannea coromandelica*** (IVI – 31.85%)***.*** The lowest IVI values of species namely ***Morus alba, Acaccia leucophloea*** and ***Ailanthus excelsa*** determined as IVI – 0.47%, IVI – 0.54% and IVI – 0.57% respectively.

Table – 10: Phytosociological atttributes of Tree Species diversity

S.No.	Botanical Name	F%	Density/ha	Basal Area m2/ha	IVI	DI
1	Acacia catechu	9.52	1.79	0.05	1.44	0.03
2	Acacia leucophloea	4.76	0.30	0.02	0.54	0.01
3	Aegle marmelos	19.05	2.38	0.12	2.68	0.04
4	Ailanthus excelsa	4.76	0.30	0.03	0.57	0.01
5	Albizia Lebbeck	14.29	2.68	0.14	2.49	0.04

6	Albizia procera	9.52	1.49	0.11	1.65	0.03
7	Aliangium solvifolium	9.52	0.60	0.13	1.48	0.03
8	Anogeissus latifolia	71.43	26.19	1.15	18.05	0.17
9	Bauhinia racemosa	9.52	1.19	0.08	1.42	0.03
10	Bauhinia variegata	4.76	0.89	0.02	0.70	0.01
11	Bombax ceiba	4.76	0.60	0.08	0.91	0.02
12	Boswellia serrata	85.71	54.17	4.32	41.80	0.27
13	Bridellia retusa	23.81	4.76	0.28	4.45	0.06
14	Buchanania lanzan	38.10	8.04	0.47	7.31	0.09
15	Butea monosperma	47.62	8.63	0.32	7.48	0.09
16	Casearia elliptica	9.52	0.89	0.13	1.59	0.03
17	Casearia graveolens	4.76	0.60	0.03	0.68	0.01
18	Cassia fistula	19.05	2.68	0.10	2.64	0.04
19	Cassine glauca	9.52	0.89	0.06	1.24	0.02
20	Cleistanthus collinus	9.52	1.49	0.08	1.50	0.03
21	Cochlospermum religiosum	14.29	1.19	0.12	1.97	0.03
22	Dalbergia paniculata	42.86	8.33	0.46	7.73	0.09
23	Diospyros melanoxylon	57.14	12.50	0.20	8.73	0.10
24	Ficus benghalensis	4.76	0.30	0.09	0.85	0.02
25	Flacourtia indica	9.52	1.19	0.04	1.25	0.02
26	Gardenia latifolia	9.52	1.19	0.02	1.15	0.02
27	Garuga pinnata	4.76	1.19	0.06	0.97	0.02
28	Haldinia cordifolia	4.76	0.89	0.05	0.83	0.02
29	Holarrhena pubescens	4.76	0.89	0.03	0.73	0.01
30	Kydia calycina	23.81	4.76	0.28	4.46	0.06
31	Lagerstoemia parviflora	95.24	68.75	2.65	38.63	0.26
32	Lannea coromandelica	85.71	39.58	3.06	31.85	0.24
33	Limonia acidissama	9.52	1.19	0.08	1.45	0.03
34	Litsea glutinosa	9.52	1.49	0.03	1.26	0.02
35	Madhuca latifolia	66.67	14.88	0.93	13.52	0.14
36	Miliusa tomentosa	42.86	8.04	0.50	7.80	0.09
37	Mitragyna parviflora	4.76	0.60	0.08	0.92	0.02
38	Morus alba	4.76	0.30	0.01	0.47	0.01
39	Nyctanthus arbor-tristis	4.76	0.60	0.02	0.62	0.01
40	Oroxylon inicum	23.81	2.08	0.62	5.31	0.07
41	Ougeinia oogeinensis	23.81	4.46	0.25	4.23	0.06
42	Pasin	38.10	8.63	0.53	7.77	0.09
43	Phyllanthus emblica	42.86	13.39	0.46	9.09	0.11
44	Pterocarpus marsupium	4.76	0.60	0.04	0.69	0.01
45	Ramna	4.76	0.60	0.05	0.74	0.01
46	Schleichera oleosa	9.52	1.19	0.06	1.31	0.02
47	Semecapus anacardium	14.29	1.79	0.06	1.88	0.03
48	Soymida febrifuga	23.81	2.38	0.16	3.22	0.05
49	Spondias pinnata	4.76	0.60	0.02	0.61	0.01
50	Sterculia urens	28.57	5.06	0.43	5.60	0.07
51	Terminalia alata	71.43	18.45	1.19	16.13	0.16
52	Terminalia bellirica	19.05	2.68	0.27	3.48	0.05
53	Terminalia chebula	38.10	5.36	0.37	6.13	0.08
54	Wrightia tinctoria	14.29	1.49	0.06	1.79	0.03
55	Ziziphus galberrima	47.62	6.25	0.19	6.23	0.08

F = Frequency; IVI = Importance Value Index; DI = Diversity Index

The status of shrub layer which is constituted by an association of 35 species. ***Lantana camara, Holarrhena pubescense*** and ***Nyctanthes arbor-tristis*** represented by 2337 plants ha^{-1}, 1422 plants ha^{-1} and 470 plants ha^{-1} respectively. The maximum IVI values determined for shrub species was by the species namely ***Lantana camara*** (IVI – 59.61%)***, Holarrhena pubescence*** (IVI – 40.54%) and ***Nyctanthes arbor-tristis*** (IVI – 18.40%), whereas minimum values of IVI are shown by the species ***Albizia procera*** as (IVI – 1.94%), ***Buchanania lanzan*** (IVI – 1.94%) and ***Litsea glutinosa*** (IVI – 1.94%). (**Table – 11)**

Table – 11: Phytosociological atttributes of Shrub Species diversity

S.No.	Botanical Name	F%	Density/ha	Abundance/ha	IVI	DI
1	Aegle marmelos	9.52	38.10	400.00	3.78	0.06
2	Albizia procera	1.59	6.35	400.00	1.94	0.03
3	Aliangium solvifolium	20.63	215.87	1046.15	10.85	0.12
4	Anogeissus latifolia	20.63	114.29	553.85	7.43	0.09
5	Boswellia serrata	11.11	50.79	457.14	4.47	0.06
6	Buchanania lanzan	1.59	6.35	400.00	1.94	0.03
7	Butea monosperma	12.70	76.19	600.00	5.68	0.08
8	Carissa opaca	20.63	146.03	707.69	8.50	0.10
9	Casearia graveolens	4.76	25.40	533.33	3.29	0.05
10	Cassia fistula	11.11	44.44	400.00	4.15	0.06
11	Catunaregum nilotica	4.76	44.44	933.33	5.14	0.07
12	Catunaregum spinosa	4.76	25.40	533.33	3.29	0.05
13	Diospyros melanoxylon	31.75	158.73	500.00	9.80	0.11
14	Embelia basaal	23.81	253.97	1066.67	12.04	0.13
15	Flacourtia indica	11.11	69.84	628.57	5.42	0.07
16	Gardenia latifolia	7.94	38.10	480.00	3.82	0.06
17	Grewia hirsuta	19.05	184.13	966.67	9.80	0.11
18	Holarrhena pubescens	58.73	1422.22	2421.62	40.54	0.27
19	Kydia calycina	9.52	50.79	533.33	4.49	0.06
20	Lagerstoemia parviflora	39.68	203.17	512.00	11.87	0.13
21	Lantana camara	80.95	2336.51	2886.27	59.61	0.32
22	Litsea glutinosa	1.59	6.35	400.00	1.94	0.03
23	Madhuca latifolia	42.86	260.32	607.41	13.64	0.14
24	Miliusa tomentosa	31.75	158.73	500.00	9.80	0.11
25	Nyctanthus arbor-tristis	26.98	469.84	1741.18	18.40	0.17
26	Ougenia oogeinensis	1.59	6.35	400.00	1.94	0.03
27	Pasin	1.59	6.35	400.00	1.94	0.03
28	Phyllanthus emblica	7.94	38.10	480.00	3.82	0.06
29	Syzygium cumini	1.59	6.35	400.00	1.94	0.03
30	Terminalia alata	15.87	76.19	480.00	5.76	0.08
31	Vitex negundo	6.35	38.10	600.00	4.02	0.06
32	Woodfordia fruticosa	19.05	177.78	933.33	9.58	0.11
33	Wrightia tinctoria	1.59	6.35	400.00	1.94	0.03
34	Ziziphus galberrima	6.35	31.75	500.00	3.53	0.05
35	Zizyphus oenoplia	4.76	31.75	666.67	3.91	0.06

F = Frequency; IVI = Importance Value Index; DI = Diversity Index

Table – 12 reveals that maximum IVI values of herbaceous layer in this area was recorded by species *viz* ***Lantana camara*** (IVI – 4.98 %), ***Hyptis suaveolens*** (IVI – 4.66%) and ***Holarrhena pubescense*** (IVI – 3.76%) while minimum value were shown by the species ***Digitaria stricta, Elytraria acaulis*** and ***Ficus benghalensis*** as (IVI – 0.15%), (IVI – 0.15%) and (IVI – 0.15%) respectively. The total density for the 107 species found in this beat is 1220111 plants ha^{-1}. The maximum density is contributed by ***Lantana camara*** (35667 ha^{-1}) followed by ***Hyptis suaveolens*** (33333 ha^{-1}) and ***Holarrhena pubescense as*** (24889 ha^{-1}).

Table – 12: Phytosociological atttributes of Herbaceous Species diversity

S.No.	Botanical Name	F%	Density/ha	Abundance/ha	IVI	DI
1.	Acacia catechu	37.78	8666.67	22941.18	1.65	0.03
2.	Acacia leucophloea	41.11	5444.44	13243.24	1.32	0.02
3.	Achyranthus aspera	24.44	6111.11	25000.00	1.24	0.02
4.	Alternanthera sessilis	37.78	9333.33	24705.88	1.73	0.03
5.	Alysicarpus hamosus	11.11	1666.67	15000.00	0.52	0.01
6.	Alysicarpus tetragonolobus	22.22	3000.00	13500.00	0.80	0.02
7.	Alysicarpus vaginalis	44.44	8666.67	19500.00	1.72	0.03
8.	Amaranthus viridis	10.00	1111.11	11111.11	0.40	0.01
9.	Ammannia baccifera	4.44	1000.00	22500.00	0.44	0.01
10.	Amorphophallus bulbifer	21.11	5555.56	26315.79	1.15	0.02
11.	Ampelocissus tomentosa	11.11	1666.67	15000.00	0.52	0.01
12.	Ampelosissus latifolia	18.89	3666.67	19411.76	0.87	0.02
13.	Anagallis arvensis	16.67	4444.44	26666.67	0.99	0.02
14.	Aspargus racemosus	6.67	1666.67	25000.00	0.57	0.01
15.	Atylosia scarabaeoides	4.44	1333.33	30000.00	0.56	0.01
16.	Bauhinia racemosa	3.33	1555.56	46666.67	0.77	0.02
17.	Bauhinia variegata	16.67	3333.33	20000.00	0.81	0.02
18.	Begonia malabarica	16.67	5111.11	30666.67	1.09	0.02
19.	Bergia ammannioides	7.78	2222.22	28571.43	0.68	0.01
20.	Blumea fistulosa	2.22	1111.11	50000.00	0.76	0.02
21.	Blumea lacera	5.56	1555.56	28000.00	0.58	0.01
22.	Blumea obliqua	18.89	3666.67	19411.76	0.87	0.02
23.	Blumea oxyodonta	8.89	2222.22	25000.00	0.65	0.01
24.	Blumeopsis flava	3.33	888.89	26666.67	0.47	0.01
25.	Boehmeria scabrella	50.00	6888.89	13777.78	1.60	0.03
26.	Coix lacryma-jobi	16.67	5000.00	30000.00	1.08	0.02
27.	Colchicum autonalum	11.11	1666.67	15000.00	0.52	0.01
28.	Combretum roxburghii	81.11	20777.78	25616.44	3.43	0.05
29.	Commelina fosskalaei	33.33	10000.00	30000.00	1.77	0.03
30.	Commelina paludosa	11.11	1666.67	15000.00	0.52	0.01
31.	Commelina suffruticosa	5.56	1111.11	20000.00	0.44	0.01
32.	Commenila benghalensis	20.00	5000.00	25000.00	1.07	0.02
33.	Convolvulous arvensis	17.78	3111.11	17500.00	0.78	0.02
34.	Convolvulus prostratus	2.22	555.56	25000.00	0.40	0.01
35.	Cryptolepis buchanani	40.00	9888.89	24722.22	1.81	0.03
36.	Dedrostis foetidissima	22.22	8222.22	37000.00	1.52	0.03
37.	Dentella repens	20.00	2666.67	13333.33	0.73	0.01
38.	Desmodium dichotomum	14.44	2333.33	16153.85	0.64	0.01

39.	Desmodium gangeticum	3.33	555.56	16666.67	0.31	0.01
40.	Desmodium rotundifolium	3.33	777.78	23333.33	0.42	0.01
41.	Desmodium triflorum	2.22	555.56	25000.00	0.40	0.01
42.	Digitaria cilliaris	2.22	444.44	20000.00	0.33	0.01
43.	Digitaria marginata	3.33	444.44	13333.33	0.26	0.01
44.	Digitaria setigera	3.33	555.56	16666.67	0.31	0.01
45.	Dodonaea angustifolia	3.33	555.56	16666.67	0.31	0.01
46.	Echinochloa colonum	11.11	2666.67	24000.00	0.71	0.01
47.	Eragrostis gangetica	7.78	1333.33	17142.86	0.46	0.01
48.	Eragrostis uniloides	3.33	555.56	16666.67	0.31	0.01
49.	Eragrostis viscosa	2.22	444.44	20000.00	0.33	0.01
50.	Eranthemum purpurascens	3.33	777.78	23333.33	0.42	0.01
51.	Hiptage benghalensis	37.78	8666.67	22941.18	1.65	0.03
52.	Holarrhena pubescens	75.56	24888.89	32941.18	3.76	0.05
53.	Hyptis suaveolens	82.22	33333.33	40540.54	4.66	0.06
54.	Ichnocarpus frutescens	6.67	1666.67	25000.00	0.57	0.01
55.	Impatiens balsamina	5.56	1111.11	20000.00	0.44	0.01
56.	Imperata cylindrica	16.67	3666.67	22000.00	0.87	0.02
57.	Ischaemum indicum	5.56	1000.00	18000.00	0.41	0.01
58.	Ischaemum pillosum	2.22	222.22	10000.00	0.18	0.00
59.	Iseilema laxum	3.33	555.56	16666.67	0.31	0.01
60.	Lavendula bipinnata	4.44	1333.33	30000.00	0.56	0.01
61.	Nyctanthus arbor-tristis	67.78	9888.89	14590.16	2.17	0.04
62.	Oroxylum indicum	3.33	555.56	16666.67	0.31	0.01
63.	Orthosiphon thymiflorus	6.67	1666.67	25000.00	0.57	0.01
64.	Ougeinia oogeinensis	18.89	4666.67	24705.88	1.02	0.02
65.	Oxalis debilis	42.22	5333.33	12631.58	1.33	0.02
66.	Oxalis richardiana	18.89	3666.67	19411.76	0.87	0.02
67.	Pentanema cernua	21.11	2444.44	11578.95	0.71	0.01
68.	Pergularia deamia	1.11	222.22	20000.00	0.29	0.01
69.	Peristrophe paniculata	2.22	333.33	15000.00	0.25	0.01
70.	Petalidium barlerioides	1.11	333.33	30000.00	0.42	0.01
71.	Peucedanum nagpurense	11.11	1333.33	12000.00	0.45	0.01
72.	Phyllanthus emblica	13.33	2444.44	18333.33	0.66	0.01
73.	Plumbago zeylanica	11.11	1333.33	12000.00	0.45	0.01
74.	Pterocarpus marsupium	3.33	555.56	16666.67	0.31	0.01
75.	Pueraria tuberosa	2.22	444.44	20000.00	0.33	0.01
76.	Pulicaria angustifolia	1.11	111.11	10000.00	0.15	0.00
77.	Rumex dentatus	13.33	1555.56	11666.67	0.51	0.01
78.	Rungia elegans	2.22	555.56	25000.00	0.40	0.01
79.	Rungia pectinata	14.44	4555.56	31538.46	1.02	0.02
80.	Smithia blanda	16.67	5111.11	30666.67	1.09	0.02
81.	Smithia conferta	7.78	2222.22	28571.43	0.68	0.01
82.	Sonchus asper	20.00	5000.00	25000.00	1.07	0.02
83.	Sonchus brachyotus	3.33	1111.11	33333.33	0.57	0.01
84.	Sonchus wightianus	5.56	1333.33	24000.00	0.51	0.01
85.	Sopubia delphinifolia	2.22	555.56	25000.00	0.40	0.01
86.	Soymida febrifuga	16.67	2111.11	12666.67	0.62	0.01
87.	Spergula arvensis	13.33	3666.67	27500.00	0.88	0.02
88.	Teramnus labialis	42.22	9777.78	23157.89	1.82	0.03

89.	Terminalia alata	33.33	5333.33	16000.00	1.22	0.02
90.	Terminalia arjuna	11.11	2333.33	21000.00	0.65	0.01
91.	Terminalia bellerica	18.89	5000.00	26470.59	1.07	0.02
92.	Triumfetta pilosa	11.11	2444.44	22000.00	0.67	0.01
93.	Tylophora rotundifolia	22.22	2777.78	12500.00	0.77	0.02
94.	Typha angustifolia	3.33	555.56	16666.67	0.31	0.01
95.	Uraria picta	11.11	1333.33	12000.00	0.45	0.01
96.	Urena lobata	14.44	2333.33	16153.85	0.64	0.01
97.	Verbascum chinense	3.33	555.56	16666.67	0.31	0.01
98.	Vernonia cinerea	3.33	777.78	23333.33	0.42	0.01
99.	Vernonia divergens	17.78	3777.78	21250.00	0.88	0.02
100.	Vertiveria zizanoides	21.11	4444.44	21052.63	0.99	0.02
101.	Vigna radiata	20.00	5000.00	25000.00	1.07	0.02
102.	Vigna trilobata	22.22	6111.11	27500.00	1.23	0.02
103.	Woodfordia fruticosa	23.33	4111.11	17619.05	0.96	0.02
104.	Wrightia tinctoria	13.33	1888.89	14166.67	0.56	0.01
105.	Xanthium indicum	28.89	5333.33	18461.54	1.17	0.02
106.	Zingiber capitatum	1.11	111.11	10000.00	0.15	0.00
107.	Ziziphus oenoplia	10.00	1666.67	16666.67	0.52	0.01

F = Frequency; IVI = Importance Value Index; DI = Diversity Index

6.4 FAUNAL DIVERSITY

A list of 38 wild animals and reptiles are observed during the field survey. The scientific name of the faunal species, english and hindi names are given in the following Table - 13.

Table - 13: LIST OF WILD ANIMALS AND BIRDS SITED DURING THE SURVEY

S. No.	SCIENTIFIC NAME	ENGLISH NAME	HINDI NAME
1.	*Acridotheres ginginianus*	Jungle myna	Jungli myna
2.	*Acridothers tristis*	Indian Myna	Myna
3.	*Bubo zeylonensis*	Brown fish owl	Oollu
4.	*Cacomantis merulinus*	Cuckoo	Cuckoo
5.	*Calotes versicolor*	Garden lizard	Garden lizard
6.	*Capella gallinago*	Chaha	Suipe
7.	*Carvus splendens*	House crow	Kowwa
8.	*Clamator jacobinus*	Pied crested cuckoo	Cuckoo
9.	*Columba livia*	Rock pigeon	Kabutar
10.	*Coracias benghalensis*	Rolier Blue fay	Neelkanth
11.	*Corvus macrorhynchos*	Jungle crow	Jungle Kowwa
12.	*Coturnix coturnix*	Grey quail	Bater
13.	*Dendroccopos mahrattensis*	Wood peckar	Katphora
14.	*Eudynamys scolopacea*	Koel	Koel, Kokila
15.	*Francolinus pictus*	Painted parteridge	Titar
16.	*Funambulus palmarum*	Squirrel	Gilhari
17.	*Gallus gallus*	Red jungle fowl	Janglimurgi
18.	*Gyps bengalensis*	Vulture Bengle	Gidha
19.	*Herpestes auropunctatus*	Mongoose	Neola

20.	*Hyaena hyaena*	Hyaena	Lakkarbagha
21.	*Lonchura Malacca*	Black headed munia	Black munia
22.	*Lupus rufcaudatus*	Hare	Khargosh
23.	*Muntjak muticas*	Barking deer	Ghutari
24.	*Naja naja*	Cobra	Cobra
25.	*Orthotomus seetorius*	Tailor bird	Tailor bird
26.	*Passer domesticus*	House sparrow	Gorya
27.	*Pavo cristatus*	Peafowl peacock	Mor
28.	*Petronia xanthocollis*	Yellow throat sparrow	Jangli chiai
29.	*Ploceus phliippinus*	Baya (Weaver bird)	Baya
30.	*Presbytis entellus*	Langur monkey	Langur
31.	*Pycnontus jocosu*	Red whiskered bulbul	Bulbul
32.	*Streptopelia chinensis*	Water hen	Jalmurgi
33.	*Streptopelia decaocto*	Ringed dove	Fakhta
34.	*Sturnus pagodarum*	Brahyminy myna	Myna
35.	*Sus scrofa*	Indian wild boar	Suar
36.	*Treron phoenicoptera*	Green pigeon	Harial
37.	*Turdoides striatus*	Common Babbler	Common Babbler
38.	*Varanus bengalensis*	Indian monitor (Goh)	Goh

6.5 IMPORTANT MEDICINAL PLANTS

Medicinal plants used by different tribal group nearby different sacred groves are also documented. A list of 57 medicinal plants used for particular ailments was prepared **Table – 14.**

Table – 14: Uses of Important Medicinal Plants as per Particular Ailments

S. No.	Botanical Name	Type of Aliments
1)	*Abutilon glaucum Sw.*	Antipyretic
2)	*Achyranthes aspera L.*	Asthma
3)	*Adhatoda vasica Nees*	Antipyretic
4)	*Adiantum sp*	Emollient
5)	*Agave sisslana Perr.*	Antipyretic
6)	*Andrographis paniculata (Burm.F) Wall.*	Malarial faver
7)	*Antidesma diandrum (Roxb) Roth.*	Antidote
8)	*Aristolochia elegans Mast.*	Antipyretic
9)	*Aristolochia indica Linn*	Antiseptic
10)	*Asparagus racemosus Willd.*	Aphrodisiac
11)	*Bauhinia malabarica Roxb.*	Astringent
12)	*Bridelia retusa Spreng*	Aphrodisiac
13)	*Butea monosperma (Lam). Toub.*	Tumor
14)	*Butea superba Roxb.*	Astringent
15)	*Careya herbacea*	Antipyretic
16)	*Chlorophytum tuberosum (Roxb) Baker*	Aphrodisiac
17)	*Chloroxylon swietenia DC.*	Antiseptic
18)	*Colocasia Indica L.*	Antidote
19)	*Costus speciosus (Koen) Smith.*	Astringent
20)	*Curcuma angustifolia Roxb.*	Cooling
21)	*Curcuma caesia Roxb.*	Asthma

22)	*Daedalacanthus purpurascens T. Anders*	Leucorrhoea
23)	*Dendrocalamus strictus (Roxb.) Nees.*	Astringent
24)	*Desmodium triflorum (L.) DC.*	Astringent
25)	*Dioscorea daemona Roxb.*	Nutrient
26)	*Dioscrea bulbifera L.*	Tonic
27)	*Elephantopus scaber L.*	Astringent
28)	*Eranthemum purpurascens Nees.*	Asthma
29)	*Eulaliopsis binata (Retz.) C.E. Hubb*	Antidote
30)	*Flemangia semialata (Roxb.) ex Ail*	Astringent
31)	*Flemingia strobilifera (L.)R. Br.*	Aphrodisiac
32)	*Gardenia latifolia Ait.*	Astringent
33)	*Gloriosa superba L.*	Abortifacient
34)	*Hemidesmus indicus (L.)R. Br.*	Antipyretic
35)	*Indigofera oblongifolia Forsk.*	Antidote
36)	*Lawsonia alba Lamk.*	Growth of hair
37)	*Loranthus longifloris Desr.*	Astringent
38)	*Mucuna pruriens (L.) DC.*	Aphrodisiac
39)	*Olax scandens Roxb.*	Anaemia
40)	*Pennisetum alopecurus (Steud.)*	Antidote
41)	*Peristrophe bicalyculata (Retz.)Nees.*	Antidote
42)	*Plumbago zeylancia Linn*	Women Sterility
43)	*Schrebera swietenioides Roxb.*	Leprosy
44)	*Shorea robusta Gaertn.*	Astringent
45)	*Sphaeranhthus indicus L.*	Antiseptic
46)	*Swertia aungustifolia Buch.*	Antipyretic
47)	*Tectona grandis L.F. Suppl.*	Antiseptic
48)	*Terminalia arjuna (DC). Wight & Arn.*	Astringent
49)	*Thymus serphyllum L.*	Vermifuge
50)	*Tridax procumbens Linn.*	Astringent
51)	*Uraria lagopoids Devs.*	Astringent
52)	*Uraria picta (Jacq) Desv. ex DC.*	Antidote
53)	*Wendlandia exserta D.C.*	Astringent
54)	*Wrightia tinctoria (Roxb.) R. Br.*	Astringent
55)	*Xanthium strumarium Roxb.*	Sedative

6.6 ETHNOBOTANICAL DIVERSITY (Traditional knowledge)

Forest resources comprising of all plants, plant parts and their products available in the areas have direct and indirect relationship with the life of local population, tribals, forest dwellers and many other backward inhabitant groups. The sociological system, custom, cultures and life patterns of these groups are also closely related with forests. They utilized forest products for Food, Fodder, Medicine, Fuel, Gum, Agriculture implements, Aromatic Oils, Basketry Works, Charcoal, Decoration, Defense Equipment, Dye, Fencing, Fishing, Furniture, House Building, Hunting equipment's, Implements, Musical instruments, Poison, Rope, Sale / Barter, Smoking, Socio-religious, Timber, Tools, Utensils etc. for their sustenance, daily needs and many other consumer products for self-consumption.

Forests are not only the source of major and minor forest products but it also provides and fulfil the basic needs and demands directly and indirectly in life pattern of these forest dwellers. They also use an enormous range of wild plants and have developed a

unique understanding of the forest resources and passed on these traditions, taboos, totems, folklore, traditional medicinal remedies and knowledge etc. by word of mouth from one generation to other generation. They also have the key to understanding, utilizing and conserving the plant resources. The storage of ethnobotanical traditional knowledge of plants and animals origin in memory is really a God gift for a resource person in each tribal group. Each tribal group has different ethnobotanical knowledge than its neighbors, which is either acculturated or lost with the knowledgeable person of that tribe.

Plant species of ethnobotanical importance are recorded from the primary data collected hrough extensive and intensive field survey. List of plant species with their botanical, local and vernacular, their respective family names are already discussed above. Local population of the villages are also involved in collection of food items like vegetables, leaves, fruits, seeds, tubers, pehri etc. for their self sustenance. A total of 81 plant species are resulted under this category. The above plants species are utilized according to their availability during the season and sacristy as raw, after cooking, boiling, when ripe, after making paste, in the form of juice, prickles etc. Plants are also utilized by multipurpose purposes ways in agricultural implements, aromatic purpose, basketry work, decoration, defence equepments, dye and tannin, fancing and protection, fishing and hunting, fibers, fodder, fuel, furniture and house building, implements and tools, sociorelegious and sacred purpose. After the analysis 36, 3, 17, 8, 25, 16, 6, 10, 3, 70, 61, 41 and 21 plants species are recored under above mentioned 14 use categories.

Table – 15: Numbers of Plants under Various Ethnobotanical Use Categories

S. No.	Ethnobotanical Use Categories	No. of Plants
1	WILD FOOD PLANTS	81
2	AGRICULTURAL IMPLEMENTS	36
3	AROMATIC PURPOSE	1
4	BASKETRY WORK	17
5	DECORATION	8
6	DEFENCE EQUEPMENTS	25
7	DYE AND TANNIN	16
8	FANCING AND PROTECTION	6
9	FISHING AND HUNTING	10
10	FIBERS	3
11	FODDER	70
12	FUEL	61
13	FURNITURE AND HOUSE BUILDING	41
14	IMPLEMENTS AND TOOLS	26
15	SOCIORELEGIOUS AND SACRED PURPOSE	22

Table – 16: Name of Plants utilized under various ethnobotanical categories

A	**WILD FOOD PLANTS**
1	*Abelmoschus manihot (L.) Medic.*
2	*Abutilon indicum G.Don.*
3	*Acacia catechu (L.f.) Willd.*
4	*Aegle marmelos (L.) Correa*

5	*Aliangium salvifolium (L.F.)*
6	*Amaranthus viridis L.*
7	*Amorphophallus bulbifer (Roxb.) Blume*
8	*Amorphophallus sylvaticus (Roxb.) Kunth*
9	*Annona squamosa L.*
10	*Anthocephalus cadamba*
11	*Antidesma diandrum (Roxb.) Heyne ex Roth*
12	*Antidesma ghassembilla Gaertn.*
13	*Artocarpus heterophyllus*
14	*Artocarpus lakoocha*
15	*Asparagus racemosus Willd.*
16	*Azadirachta indica A. Juss.*
17	*Bambusa arundinacea (Retz.) Willd.*
18	*Bauhinia vahlli L.*
19	*Bauhinia variegata L.*
20	*Bombax ceiba L.*
21	*Boswellia serrata Roxb. ex Colebr.*
22	*Bridelia retusa (L.) Spreng*
23	*Buchanania lanzan Spreng.*
24	*Butea monosperma (Lamk.) Taub.*
25	*Butea parviflora Roxb.*
26	*Butea superba Roxb.*
27	*Canavalia gladiata (Jacq.) DC.*
28	*Capparis zeylanica L.*
29	*Carissa carandas*
30	*Carissa opaca Stapf ex Haines*
31	*Carissa spinarum*
32	*Cassia tora L.*
33	*Chlorophytum auruandinaceum Baker.*
34	*Chlorophytum tuberosum (Roxb.) Baker*
35	*Coccinia grandis (L.) Voigt.*
36	*Cordia dichotoma G.Forster*
37	*Cordia macleodii (Griff) Hook.*
38	*Costus speciosus Koenig J. E. Smith*
39	*Derris indica*
40	*Dillenia pentagyna Roxb.*
41	*Dioscorea belophylla (Prain) Voigt ex Haines*
42	*Dioscorea bulbifera L.*
43	*Dioscorea glabra Roxb.*
44	*Dioscorea hispida Dennst.*
45	*Dioscorea pentaphylla L.*
46	*Dioscorea pubera Blume*
47	*Dioscorea wightii Hook.f.*
48	*Diospyos melanoxylon Roxb.*

49	*Ehretia laevis Roxb.*
50	*Feronia limonia (L.) Swingle*
51	*Ficus glomerata*
52	*Flacourtia indica (Bunn.f.) Merr.*
53	*Gardenia turgida Roxb.*
54	*Grewia hirsuta Vahl.*
55	*Grewia tiliifolia Vahl.*
56	*Holoptelea integrifolia (Roxb.) Planch.*
57	*Ipomoea nil (L.) Roth.*
58	*Lantana camara (L.)*
59	*Leea macrophylla Roxb. ex Hornem.*
60	*Madhuca latifolia (Roxb.) Macbr.*
61	*Mangifera indica L.*
62	*Manilkara hexandra (Roxb.) Dubard.*
63	*Moringa oleifera*
64	*Mucuna pruriens (L.) DC.*
65	*Pithecelobicum dulce (Roxb.) Benth.*
66	*Pogostemon purpurascens Dalzell*
67	*Radermachera xylocarpa (Roxb.) K. Schum.*
68	*Schleichera oleosa (Lour.)*
69	*Schrebera swietenioides Roxb.*
70	*Semecarpus anacardium L.f.*
71	*Smilax zeylanica L.*
72	*Solanum nigrum L.*
73	*Sterculia urens Roxb.*
74	*Syzygium cumini (L.) Skells*
75	*Syzygium heyneanum Wall. ex Wight & Arn.*
76	*Tamarindus indica L.*
77	*Ventilago denticulata Willd.*
78	*Wrightia tinctoria R.Br.*
79	*Ziziphus mauritiana Lamk.*
80	*Ziziphus nummularia (Burm.f.) Wight & Arn,*
81	*Ziziphus oenoplia (L.) Mill.*
B	**AGRICULTURAL IMPLEMENTS**
1	*Acacia catechu* (L.f.) Willd.
2	*Acacia nilotica* (L.) Willd. ex Del.
3	*Ailanthus excelsa* Roxb.
4	*Albizia lebbeck* (L.) Benth.
5	*Albizia procera* (Roxb.) Benth.
6	*Anogeissus latifolia* (Roxb.ex DC.) Wall. ex Guill.
7	*Bambusa arundinacea* (Retz.) Willd.
8	*Boswellia serrata* Roxb. *ex* Colebr.
9	*Buchanania lanzan* Spreng.
10	*Careya arborea* Roxb.

11	*Cassia fistula* L.
12	*Cleistanthus collinus* (Roxb.) Benth. ex Hook.
13	*Cordia dichotoma* G.Forster
14	*Dalbergia latifolia* L.
15	*Dalbergia paniculata* Roxb.
16	*Dillenia pentagyna* Roxb.
17	*Diospyos melanoxylon* Roxb.
18	*Gardenia latifolia* Ait.
19	*Gmelina arborea* Roxb.
20	*Grewia tiliifolia* Vahl.
21	*Holoptelea integrifolia* (Roxb.) Planch.
22	*Kydia calycina* Roxb.
23	*Lagerstoemia parviflora* Roxb.
24	*Litsea glutinosa* (Lour.) Robinson
25	*Mitragyna parviflora* (Roxb.)
26	*Ougeinia oogeinensis* (Roxb.) Hochr
27	*Pterocarpus marsupium* Roxb.
28	*Radermachera xylocarpa* (Roxb.) K. Schum.
29	*Schleichera oleosa* (Lour.)
30	*Schrebera swietenioides* Roxb.
31	*Tectona grandis* L.f.
32	*Terminalia arjuna* (Roxb.ex DC.) Wight. & Arm.
33	*Terminalia bellirica* (Gaertn.) Roxb.
34	*Terminalia chebula* Retz.
35	*Wendlandia exserta* (Cav.) Babu
36	*Wrightia tinctoria* R.Br.
C	**AROMATIC PURPOSE**
1	*Cyperus rotundus* L.
D	**BASKETRY WORK**
1	*Abutilon indicum* G.Don.
2	*Agave americana* L.
3	*Apluda mutica* L.
4	*Bambusa arundinacea* (Retz.) Willd.
5	*Bauhinia vahlli L.*
6	*Bombax ceiba* L.
7	*Butea monosperma* (Lamk.) Taub.
8	*Dalbergia latifolia* L.
9	*Dendrocalamus strictus* (Roxb.) Nees.
10	*Desmodium pulchellum* (L.) Benth.
11	*Desmostachya bipinnata* (L.) Stapf
12	*Eulaliopsis binata* (Retz.) Hubb.
13	*Ichnocarpus frutescens (*L.) R.Br.
14	*Imperata cylindrica* (L.) P. Beauv.
15	*Phoenix acaulis* Buch-Ham.*ex* Roxb.

16	*Vitex negundo* L.
17	*Woodfordia fruticosa* (L.) Kurz.
E	**DECORATION**
1	*Bambusa arundinacea* (Retz.) Willd.
2	*Bauhinia vahlli L.*
3	*Bombax ceiba* L.
4	*Butea monosperma* (Lamk.) Taub.
5	*Dendrocalamus strictus* (Roxb.) Nees.
6	*Ficus benghalensis* L.
7	*Mangifera indica L.*
8	*Phoenix acaulis* Buch-Ham.*ex* Roxb.
F	**DEFENCE EQUEPMENTS**
1	*Ailanthus excelsa* Roxb.
2	*Albizia procera* (Roxb.) Benth.
3	*Bambusa arundinacea* (Retz.) Willd.
4	*Bauhinia vahlli L.*
5	*Bombax ceiba* L.
6	*Butea monosperma* (Lamk.) Taub.
7	*Careya arborea* Roxb.
8	*Ceiba pentandra* (L.) Gaertn.
9	*Dendrocalamus strictus* (Roxb.) Nees.
10	*Dillenia pentagyna* Roxb.
11	*Diospyros montana* Roxb.
12	*Litsea glutinosa* (Lour.) Robinson
13	*Madhuca latifolia* (Roxb.) Macbr.
14	*Mangifera indica L.*
15	*Melia azadarach* L.
16	*Nyctanthus arbor-tristis* L.
17	*Phoenix acaulis* Buch-Ham.*ex* Roxb.
18	*Pterocarpus marsupium* Roxb.
19	*Schleichera oleosa* (Lour.)
20	*Semecarpus anacardium* L.f.
21	*Sterculia urens* Roxb.
22	*Tectona grandis* L.f.
23	*Terminalia arjuna* (Roxb.ex DC.) Wight. & Arm.
24	*Terminalia chebula* Retz.
25	*Vitex negundo* L.
G	**DYE AND TANNIN**
1	*Acacia nilotica* (L.) Willd. ex Del.
2	*Acacia pennata* (L.) Willd.
3	*Butea monosperma* (Lamk.) Taub.
4	*Casearia graveolens* Dalz.
5	*Dalbergia latifolia* L.
6	*Dendropthoe falcata* (L.f.) Etting.

7	*Ficus hispida* L.f.
8	*Mitragyna parviflora* (Roxb.)
9	*Mollugo pentaphylla* L.
10	*Nyctanthus arbor-tristis* L.
11	*Phyllanthus emblica L.*
12	*Syzygium heyneanum* Wall. ex Wight & Arn.
13	*Terminalia arjuna* (Roxb.ex DC.) Wight. & Arm.
14	*Terminalia bellirica* (Gaertn.) Roxb.
15	*Terminalia chebula* Retz.
16	*Woodfordia fruticosa* (L.) Kurz.
H	**FANCING AND PROTECTION**
1	*Bambusa arundinacea* (Retz.) Willd.
2	*Bauhinia vahlli L.*
3	*Clerodendrum serratum* (L.) Moon.
4	*Dendrocalamus strictus* (Roxb.) Nees.
5	*Dillenia pentagyna* Roxb.
6	*Phoenix acaulis* Buch-Ham.*ex* Roxb.
I	**FISHING AND HUNTING**
1	*Acacia pennata* (L.) Willd.
2	*Bambusa arundinacea* (Retz.) Willd.
3	*Casearia graveolens* Dalz.
4	*Cleistanthus collinus* (Roxb.) Benth. ex Hook.
5	*Dendrocalamus strictus* (Roxb.) Nees.
6	*Dioscorea hispida* Dennst.
7	*Diospyros montana* Roxb.
8	*Ichnocarpus frutescens (*L.) R.Br.
9	*Millettia extensa* (Benth.) Baker
10	*Pithecelobicum dulce* (Roxb.) Benth.
J	**FIBERS**
1	*Mitragyna parviflora* (Roxb.)
2	*Urena lobata* L.
3	*Ventilago denticulata* Willd.
K	**FODDER**
1	*Acacia nilotica* (L.) Willd. ex Del.
2	*Ailanthus excelsa* Roxb.
3	*Albizia odoratissima* (L.f.) Benth.
4	*Amaranthus viridis* L.
5	*Annona squamosa* L.
6	*Antidesma ghassembilla Gaertn.*
7	*Apluda mutica* L.
8	*Bambusa arundinacea* (Retz.) Willd.
9	*Bauhinia variegata* L.
10	*Boerhavvia diffusa* L.
11	*Bombax ceiba* L.

12	*Butea monosperma* (Lamk.) Taub.
13	*Canavalia gladiata* (Jacq.) DC.
14	*Capparis zeylanica* L.
15	*Cassia fistula* L.
16	*Cassia tora* L.
17	*Ceiba pentandra* (L.) Gaertn.
18	*Coix gigantea* Koening ex Roxb.
19	*Costus speciosus* Koenig J. E. Smith
20	*Cynodon dactylon* (L.) Pers.
21	*Cyperus rotundus* L.
22	*Dalbergia latifolia* L.
23	*Dendrocalamus strictus* (Roxb.) Nees.
24	*Desmodium pulchellum* (L.) Benth.
25	*Desmostachya bipinnata* (L.) Stapf
26	*Dillenia pentagyna* Roxb.
27	*Diospyos melanoxylon* Roxb.
28	*Ehretia laevis* Roxb.
29	*Eragrostis tenella* (L.) P. Beauv. ex Roem & Schult.
30	*Feronia limonia* (L.) Swingle
31	*Ficus benghalensis* L.
32	*Ficus carica* L.
33	*Ficus hispida* L.f.
34	*Ficus religiosa* L.
35	*Flacourtia indica* (Bunn.f.) Merr.
36	*Gardenia gummifera* L.f.
37	*Gardenia latifolia* Ait.
38	*Grewia hirsuta* Vahl.
39	*Grewia tiliifolia* Vahl.
40	*Helicteres isora* L.
41	*Holoptelea integrifolia* (Roxb.) Planch.
42	*Ischaemum pillosum* (Klein ex Willd.) wight
43	*Iseilema laxum* Hack.
44	*Kydia calycina* Roxb.
45	*Lagerstoemia parviflora* Roxb.
46	*Madhuca latifolia* (Roxb.) Macbr.
47	*Mallotus phillipensis* (Lin.) Muell.Arg.
48	*Mangifera indica L.*
49	*Melia azadarach* L.
50	*Miliusa tomentosa* (Roxb.) Sinclair
51	*Millettia extensa* (Benth.) Baker
52	*Mitragyna parviflora* (Roxb.)
53	*Mollugo pentaphylla* L.
54	*Moringa oleifera*
55	*Ougeinia oogeinensis* (Roxb.) Hochr

56	*Phylanthus emblica*
57	*Pithecelobicum dulce* (Roxb.) Benth.
58	*Pterocarpus marsupium* Roxb.
59	*Schleichera oleosa* (Lour.)
60	*Schrebera swietenioides* Roxb.
61	*Syzygium cumini* (L.) Skells
62	*Syzygium heyneanum* Wall. ex Wight & Arn.
63	*Terminalia bellirica* (Gaertn.) Roxb.
64	*Thysanolaena maxima* (Roxb.) Kuntze
65	*Tribulus terrestris L.*
66	*Wendlandia exserta* (Cav.) Babu
67	*Woodfordia fruticosa* (L.) Kurz.
68	*Wrightia tinctoria* R.Br.
69	*Ziziphus mauritiana* Lamk.
70	*Ziziphus nummularia* (Burm.f.) Wight & Arn,
L	**FUEL**
1	*Abelmoschus manihot* (L.) Medic.
2	*Acacia catechu* (L.f.) Willd.
3	*Acacia leucophloea* (Roxb.) Willd.
4	*Acacia nilotica* (L.) Willd. ex Del.
5	*Ailanthus excelsa* Roxb.
6	*Albizia lebbeck* (L.) Benth.
7	*Albizia odoratissima* (L.f.) Benth.
8	*Albizia procera* (Roxb.) Benth.
9	*Anogeissus latifolia* (Roxb.ex DC.) Wall. ex Guill.
10	*Antidesma ghassembilla Gaertn.*
11	*Bambusa arundinacea* (Retz.) Willd.
12	*Bauhinia variegata* L.
13	*Bombax ceiba* L.
14	*Boswellia serrata* Roxb. *ex* Colebr.
15	*Bridelia retusa* (L.) Spreng
16	*Buchanania lanzan* Spreng.
17	*Butea monosperma* (Lamk.) Taub.
18	*Careya arborea* Roxb.
19	*Cassia fistula* L.
20	*Cassia tora* L.
21	*Ceiba pentandra* (L.) Gaertn.
22	*Cordia dichotoma* G.Forster
23	*Dalbergia latifolia* L.
24	*Dalbergia paniculata* Roxb.
25	*Dendrocalamus strictus* (Roxb.) Nees.
26	*Diospyos melanoxylon* Roxb.
27	*Diospyros montana* Roxb.
28	*Feronia limonia* (L.) Swingle

29	*Flacourtia indica* (Bunn.f.) Merr.
30	*Gardenia gummifera* L.f.
31	*Gardenia latifolia* Ait.
32	*Gardenia turgida* Roxb.
33	*Gmelina arborea* Roxb.
34	*Grewia tiliifolia* Vahl.
35	*Helicteres isora* L.
36	*Holoptelea integrifolia* (Roxb.) Planch.
37	*Ichnocarpus frutescens (*L.) R.Br.
38	*Kydia calycina* Roxb.
39	*Lagerstoemia parviflora* Roxb.
40	*Lannea coromandelica* (Houtt.) Merr.
41	*Lantana camara* (L.)
42	*Litsea glutinosa* (Lour.) Robinson
43	*Mallotus phillipensis* (Lin.) Muell.Arg.
44	*Mangifera indica L.*
45	*Melia azadarach* L.
46	*Miliusa tomentosa* (Roxb.) Sinclair
47	*Mitragyna parviflora* (Roxb.)
48	*Ougeinia oogeinensis* (Roxb.) Hochr
49	*Pithecelobicum dulce* (Roxb.) Benth.
50	*Pterocarpus marsupium* Roxb.
51	*Radermachera xylocarpa* (Roxb.) K. Schum.
52	*Schleichera oleosa* (Lour.)
53	*Semecarpus anacardium* L.f.
54	*Sterculia urens* Roxb.
55	*Syzygium cumini* (L.) Skells
56	*Tectona grandis* L.f.
57	*Terminalia arjuna* (Roxb.ex DC.) Wight. & Arm.
58	*Terminalia bellirica* (Gaertn.) Roxb.
59	*Terminalia chebula* Retz.
60	*Vitex negundo* L.
61	*Woodfordia fruticosa* (L.) Kurz.
M	**FURNITURE AND HOUSE BUILDING**
1	*Acacia catechu* (L.f.) Willd.
2	*Acacia leucophloea* (Roxb.) Willd.
3	*Acacia nilotica* (L.) Willd. ex Del.
4	*Albizia lebbeck* (L.) Benth.
5	*Albizia odoratissima* (L.f.) Benth.
6	*Albizia procera* (Roxb.) Benth.
7	*Anogeissus latifolia* (Roxb.ex DC.) Wall. ex Guill.
8	*Antidesma ghassembilla Gaertn.*
9	*Azadirachta indica* A. Juss.
10	*Bambusa arundinacea* (Retz.) Willd.

11	*Bauhinia vahlli L.*
12	*Bauhinia variegata* L.
13	*Boswellia serrata* Roxb. *ex* Colebr.
14	*Buchanania lanzan* Spreng.
15	*Careya arborea* Roxb.
16	*Cassia fistula* L.
17	*Cordia dichotoma* G.Forster
18	*Dalbergia latifolia* L.
19	*Dalbergia paniculata* Roxb.
20	*Dendrocalamus strictus* (Roxb.) Nees.
21	*Dillenia pentagyna* Roxb.
22	*Diospyos melanoxylon* Roxb.
23	*Gardenia latifolia* Ait.
24	*Gmelina arborea* Roxb.
25	*Grewia hirsuta* Vahl.
26	*Grewia tiliifolia* Vahl.
27	*Holoptelea integrifolia* (Roxb.) Planch.
28	*Kydia calycina* Roxb.
29	*Lagerstoemia parviflora* Roxb.
30	*Lannea coromandelica* (Houtt.) Merr.
31	*Litsea glutinosa* (Lour.) Robinson
32	*Miliusa tomentosa* (Roxb.) Sinclair
33	*Mitragyna parviflora* (Roxb.)
34	*Ougeinia oogeinensis* (Roxb.) Hochr
35	*Phoenix acaulis* Buch-Ham.*ex* Roxb.
36	*Schleichera oleosa* (Lour.)
37	*Soymida febrifuga* (Roxb.) A. Juss.
38	*Tectona grandis* L.f.
39	*Terminalia arjuna* (Roxb.ex DC.) Wight. & Arm.
40	*Terminalia bellirica* (Gaertn.) Roxb.
41	*Terminalia chebula* Retz.
N	**IMPLEMENTS AND TOOLS**
1	*Acacia nilotica* (L.) Willd. ex Del.
2	*Bauhinia vahlli L.*
3	*Bauhinia variegata* L.
4	*Boswellia serrata* Roxb. *ex* Colebr.
5	*Bridelia retusa* (L.) Spreng
6	*Buchanania lanzan* Spreng.
7	*Ceiba pentandra* (L.) Gaertn.
8	*Cordia dichotoma* G.Forster
9	*Dalbergia latifolia* L.
10	*Dendrocalamus strictus* (Roxb.) Nees.
11	*Gardenia gummifera* L.f.
12	*Gardenia latifolia* Ait.

13	*Gardenia turgida* Roxb.
14	*Holoptelea integrifolia* (Roxb.) Planch.
15	*Kydia calycina* Roxb.
16	*Lagerstoemia parviflora* Roxb.
17	*Lannea coromandelica* (Houtt.) Merr.
18	*Miliusa tomentosa* (Roxb.) Sinclair
19	*Mitragyna parviflora* (Roxb.)
20	*Pterocarpus marsupium* Roxb.
21	*Schleichera oleosa* (Lour.)
22	*Soymida febrifuga* (Roxb.) A. Juss.
23	*Tectona grandis* L.f.
24	*Thysanolaena maxima* (Roxb.) Kuntze
25	*Wendlandia exserta* (Cav.) Babu
26	*Wrightia tinctoria* R.Br.
O	**SOCIORELEGIOUS AND SACRED PURPOSE**
1	*Aegle marmelos (L.) Correa*
2	*Annona squamosa* L.
3	*Buchanania lanzan* Spreng.
4	*Calotropis gigantea* (L.) R.Br.
5	*Cynodon dactylon* (L.) Pers.
6	*Cyperus rotundus* L.
7	*Datura metel* L.
8	*Datura stramonium* L.
9	*Diospyos melanoxylon* Roxb.
10	*Ficus benghalensis* L.
11	*Ficus religiosa* L.
12	*Mallotus phillipensis* (Lin.) Muell.Arg.
13	*Mangifera indica L.*
14	*Melia azadarach* L.
15	*Nyctanthus arbor-tristis* L.
16	*Phoenix acaulis* Buch-Ham.*ex* Roxb.
17	*Pithecelobicum dulce* (Roxb.) Benth.
18	*Syzygium cumini* (L.) Skells
19	*Woodfordia fruticosa* (L.) Kurz.
20	*Ziziphus mauritiana* Lamk.
21	*Boswellia serrata* Roxb. ex Colebr.
22	*Ziziphus nummularia* (Burm.f.) Wight & Arn,

6.7 STATUS OF ENDEMIC, RARE AND THREATENED MEDICINAL PLANTS

Inventory of endemic, rare and threatened medicinal plants have been prepared on the bases of seasonal survey and available field informations. IUCN red list category and threat assessment methods for evaluating the status of medicinal plants have been followed as per threat area. Data revealed that no endemic medicinal plant species were identified from the sacred groves. 17 vulernable species, 5 endangered species, 1 near threatened species was analysed from the collected data. Status of endemic, rare and threatened medicinal plants in all 18 Sacred Groves are analysed and presented in the following (Table – 17) with name of plant species, family and threat status of the species. Data sheets of all threatened species have been prepared.

Table – 17: Red list categories of Medicinal Plants

S. No.	NAME OF SPECIES	FAMILY	THREAT STATTUS
53.	*Amorphophallus paeoniofolus (Denn) Nicol*	Araceae	VU
54.	*Aristolochia bracteolate Lam.*	Aristolochiaceae	VU
55.	*Bacopa monnieri (L) Wettst.*	Scrophulariaceae	VU
56.	*Bauhinia vahlii W. & A.*	Caesalpiniaceae	NT
57.	*Centella asiatica (L) Urban.*	Apiaceae	VU
58.	*Ceropegia hirsute W. & A.*	Asclepiadaceae	EN
59.	*Clerodendrum serratum (L) Moon*	Verbenaceae	EN
60.	*Costus speciosus L.*	Zingiberaceae	VU
61.	*Curcuma zedoaria (Christ) Roscoe*	Zingiberaceae	VU
62.	*Dillenia pentagyna Roxb.*	Dilleniaceae	VU
63.	*Dioscoria bulbifera L.*	Dioscoreaceae	VU
64.	*Embelia tesjeriam-cotton*	Euphorbiaceae	VU
65.	*Equisetum ramosissimum Desf.*	Equisetaceae	EN
66.	*Gloriosa superba L.*	Liliaceae	VU
67.	*Gymnema sylvestre R.Br.*	Asclepiadaceae	VU
68.	*Litsea glutinosa (Lour) C. B. Robins*	Lauraceae	VU
69.	*Nervilia plicata (Andr.) Schlechter*	Orchidaceae	EN
70.	*Peuraria tuberosa (Roxb. ex Willd.) DC.*	Fabaceae	EN
71.	*Phyllanthus emblica Gaertn*	Euphorbiaceae	VU
72.	*Pterocarpus marsupium Roxb.*	Fabaceae	VU
73.	*Rubia cordifolia L.*	Rubiaceae	VU
74.	*Thalictrum foliolosum DC.*	Ranunculaceae	VU
75.	*Uraria picta (Jacq) Desv.ex.DC*	Fabaceae	VU

DATA SHEET - 1

1	**Botanical name**		***Amorphophallus paeoniofolus* (Dennst.) Nicol**						
2	**Basionys/Synonym(s)**		*Amorphophallus campanulatus* (Roxb.)Blume ex Decne						
3	**Family**		**Araceae**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Jungli suran						
6	**Habit**		Herb						
7	**Habitat**		Marshy and shady place						
8	**Original global distribution**								
9	**Current regional distribution**		• Dewas (Kusmania), • Indore (Manpur), • Khandwa (Kalibhit), • Khangore (Sirwel), • Balaghat (Supkhar), • Balaghat (Harrabhat), • Mandla (Padmi).						
10	**Elevation range (M)**		610						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11 a	**Time/Rate(Year/generation)**		10 years						
12	**Extend of occurrence (EOO)**		Km^2	12000					
13	**Area of occurrence (AOO)**		Km^2	300					
14	**No. of location /Sub-Population**		Three						
14 a	**Data quality**		2,3,4						
15	**Threads**		Hm.						
16	**Trade**	**Names**							
		Level(S)	Local	√	Regional	√	National		Global
		Part traded							
		Effect of population							
		Data quality							
17	**Other comments**		Plant in useful in throat inflammations & respiratory complaint.						
18.	**Recent field of studies**		• Sheikh. Muzaffar (Khandewa) 2004-05, • Dr. Sundip Ray (Khandewa) 2004-05, • Dr. Sundip Ray (Indore) 2004-05, • Mrs. Veena Satya.						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**VU**						
20.	**% of global distribution**		5%						
21.	**Existing conservation measure**								
22.	**Is the presence of taxon**		Yes						

	continuous with neighboring areas	
23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	
	a. i*n-Situ*	√
	b. *ex–Situ*	
	i) Cultivation	
	ii) Levels of difficulty in propagation / cultivation	
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 2

1	**Botanical name**		***Aristolochia bracteolata* Lam**						
2	**Basionys/Synonym(s)**		*Aristolochia bracteata* Retz.						
3	**Family**		**Aristolochacea**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Kidamar, Batakhabel, Mukka bel.						
6	**Habit**		Herbaceous perennial climber						
7	**Habitat**		Wasteland						
8	**Original global distribution**		India, Ceylon, Arabia, Tropical Africa.						
9	**Current regional distribution**		• Bhopal (Shyamla Hills), • Raisen (Chiklod).						
10	**Elevation range (M)**		400-600						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11 a	**Time/Rate(Year/generation)**		10 years						
12	**Extend of occurrence (EOO)**		Km^2	>2000					
13	**Area of occurrence (AOO)**		Km^2	>200					
14	**No. of location /Sub-Population**		2 District						
14 a	**Data quality**		2, 4						
15	**Threads**		Hm, T						
16	**Trade**	**Names**	Kidamar						
		Level(S)	Local		Regional	√	National		Global	
		Part traded	Leaves fruits and roots						
		Effect of population	Declining						
		Data quality	2, 4						
17	**Other comments**		The plant is pungative and anti-helminitic. Dried root powder is referred as arbortifacient, antidote. Leaves powered with caster oil used for eczema and snakebite.						
18.	**Recent field of studies**		• Department of Botany, • Sarojini Naidu Govt. girls P.G. College, • Shivaji Nagar, Bhopal 2005.						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**VU**						
20.	**% of global distribution**		<2%						
21.	**Existing conservation measure**								
22.	**Is the presence of taxon continuous with neighboring areas**		Yes						
23.	**Are the outside population also under similar threads /pressure**		Yes						

24.	**Recommendations**	
	Research /Management	
	a. i*n-Situ*	√
	b. *ex–Situ*	Tissue Culture
	i) Cultivation	Should be cultivated
	ii) Levels of difficulty in propagation / cultivation	
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 3

1	**Botanical name**		***Bacopa monnieri* (L.) Wettst.**
2	**Basionys/Synonym(s)**		*Lysimachia monnieri* L**.**
3	**Family**		**Scrophulariaceae**
4	**Taxonomic status**		Species
5	**Vernacular names**		Bramhi, Jal Brachmi, Jal Neem.
6	**Habit**		Prostrate herb, rooting at the nodes.
7	**Habitat**		Marshy wet places near lakes and ponds.
8	**Original global distribution**		Throughout India, Ceylon, Malaya and all the tropical/sub tropical region of the world.
9	**Current regional distribution**		• Bhopal (Lower lake 74 Baungalows), • Vidisha (Lateri).
10	**Elevation range (M)**		400-600
11	**Population reduction (pl. tick in appropriate cell)**		**<30%** | **30 to 49%** | **50 to 80%** | **>80%** | √ |
11 a	**Time/Rate(Year/generation)**		10 years
12	**Extend of occurrence (EOO)**		Km^2 >2000
13	**Area of occurrence (AOO)**		Km^2 >200
14	**No. of location /Sub-Population**		4 District
14 a	**Data quality**		2, 4
15	**Threads**		Hm
16	**Trade**	**Names**	Bramhi
		Level(S)	Local | | Regional | | National | √ | Global |
		Part traded	Whole plant
		Effect of population	Declining
		Data quality	2, 4
17	**Other comments**		The stalks and leaves used medicinally in rheumatism, gonorrheal and also taken as nerving tonic.
18.	**Recent field of studies**		• Department of Botany, • Sarojini Naidu Govt. girls P.G. College, • Shivaji Nagar, Bhopal 2005.
19.	**Status**		
	- CITIES		-
	- Legislation		-
	- Criteria based on		**A2cd**
	- IUCN		**VU**
20.	**% of global distribution**		<1%
21.	**Existing conservation measure**		
22.	**Is the presence of taxon continuous with neighboring areas**		Yes
23.	**Are the outside population also under similar threads /pressure**		Yes

24.	**Recommendations**	
	Research /Management	
	a. i*n-Situ*	√
	b. *ex–Situ*	Tissue Culture, vegetation propagation by cutting.
	i) Cultivation	Should be cultivated
	ii) Levels of difficulty in propagation / cultivation	
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 4

1	**Botanical Name**		***Bauhinia vahlii* Wt. & Arn.**						
2	**Basionys/Synonym(s)**		*Phanera vahlii* (Wt. & Arn.) Benth.						
3	**Family**		**Caesalpiniaceae**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Mahul, Mohalla, Siali.						
6	**Habit**		Liana (woody climber)						
7	**Habitat**		Mixed forest, Sal forest.						
8	**Original global distribution**		Throughout Madhya Pradesh.						
9	**Current regional distribution**		• Rewa (Pachmattha), • Damoh (Rani Durgavati Sanctuary), • Sagar (Bandri, Rehli, Garhpara).						
10	**Elevation range (M)**		400-800						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
			√						
11 a	**Time/Rate(Year/generation)**		3 Generations						
12	**Extend of occurrence (EOO)**		Km^2	>22000					
13	**Area of occurrence (AOO)**		Km^2	>2000					
14	**No. of location /Sub-Population**		100-500						
14 a	**Data quality**		2, 3						
15	**Threads**		H, Hp, L, Lf, Lp, Sf, Tp.						
16	**Trade**	**Names**	Mahil						
		Level(S)	Local	√	Regional	√	National		Global
		Part traded	Leaf, root, stem						
		Effect of population	Declining						
		Data quality	2, 3						
17	**Other comments**		Vermifuge. Fruits used as ashrodie. Seeds in dysentery and stomachache. Bark used as fiber making rope.						
18.	**Recent field of studies**		• P.C. Dubey & A.P. Tiwari, • Vindhyan Medicinal plants 2005, • Department of forest, Madhya Pradesh.						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**NT**						
20.	**% of global distribution**								
21.	**Existing conservation measure**		Nil						
22.	**Is the presence of taxon continuous with neighboring areas**								
23.	**Are the outside population also under similar threads /pressure**		Yes						

24.	**Recommendations**	
	Research /Management	
	a. i*n-Situ*	√
	b. *ex–Situ*	
	i) Cultivation	√
	ii) Levels of difficulty in propagation / cultivation	Regeneration problem
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 5

1	**Botanical name**		***Centella asiatica* (L.) Urban.**					
2	**Basionys/Synonym(s)**		*Hydrocoptyle asiatica* L.					
3	**Family**		**Apiaceae**					
4	**Taxonomic status**		Species					
5	**Vernacular names**		Bramhi, Mandukparni, Brahm manduki.					
6	**Habit**		Slender herbaceous, rooting at the nodes.					
7	**Habitat**		Moist places..					
8	**Original global distribution**		Throughout India, Base of Himalaya, Ceylon, Malaya and all the tropical/sub tropical region of the world.					
9	**Current regional distribution**		• Bhopal (Moti Maszid), • Raisen (Halali Dam), • Bhopal (Bhadbhada).					
10	**Elevation range (M)**		400-600					
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**		
				√				
11 a	**Time/Rate(Year/generation)**		10 years					
12	**Extend of occurrence (EOO)**		Km^2	>2000				
13	**Area of occurrence (AOO)**		Km^2	>200				
14	**No. of location /Sub-Population**		3 District					
14 a	**Data quality**		2, 4					
15	**Threads**		Hm, T					
16	**Trade**	**Names**	Bramhi					
		Level(S)	Local		Regional	√	National	√ Global
		Part traded	Whole plant					
		Effect of population	Declining					
		Data quality	2, 4					
17	**Other comments**		As brain tonic. In skin diseases, Trberculosis, Anemia, Asthma, Madness, Cholera, heat effect, wound healing.					
18.	**Recent field of studies**		• Department of Botany, • Sarojini Naidu Govt. girls P.G. College, • Shivaji Nagar, Bhopal 2005.					
19.	**Status**							
	- CITIES		-					
	- Legislation		-					
	- Criteria based on		**A2cd**					
	- IUCN		**VU**					
20.	**% of global distribution**		<2%					
21.	**Existing conservation measure**							
22.	**Is the presence of taxon continuous with neighboring areas**		Yes					
23.	**Are the outside population also under similar threads**		Yes					

	/pressure	
24.	**Recommendations**	
	Research /Management	
	a. i*n-Situ*	Management needed.
	b. *ex–Situ*	Vegetative propagation.
	i) Cultivation	
	ii) Levels of difficulty in propagation / cultivation	
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 6

1	**Botanical name** Botanical **Botanical name**		***Ceropegia hirsuta* Wt. & Arn**..					
2	**Basionys/Synonym(s)**		*Ceropegia vincaefolia* Hook.					
3	**Family**		**Asclepiadaceae**					
4	**Taxonomic status**		Species					
5	**Vernacular names**		Basia Kand					
6	**Habit**		Climbers					
7	**Habitat**		Rocky places place in sal forests, scrub jungle along Cassia Sp.					
8	**Original global distribution**							
9	**Current regional distribution**		• Sagar (Patharia hills), • Anuppur (Anarkantle).					
10	**Elevation range (M)**		600					
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**		
					√			
11 a	**Time/Rate(Year/generation)**		10 years					
12	**Extend of occurrence (EOO)**		Km^2	>3000				
13	**Area of occurrence (AOO)**		Km^2	>300				
14	**No. of location /Sub-Population**		3-4					
14 a	**Data quality**		2, 3, 4					
15	**Threads**							
16	**Trade**	**Names**						
		Level(S)	Local	√	Regional		National		Global	
		Part traded	Leaves, young fruits and tubers.					
		Effect of population	Declining					
		Data quality						
17	**Other comments**		Forest clearing and harvesting are the main threads to this species. Antidote for snake bite.					
18.	**Recent field of studies**							
19.	**Status**							
	- CITIES		-					
	- Legislation		-					
	- Criteria based on		**A2cd**					
	- IUCN		**EN**					
20.	**% of global distribution**		5%					
21.	**Existing conservation measure**		Nil					
22.	**Is the presence of taxon continuous with neighboring areas**		Yes					
23.	**Are the outside population also under similar threads /pressure**		Yes					

24.	**Recommendations**	
	Research /Management	Biology and Reproductive ecology
	a. i*n-Situ*	√
	b. *ex–Situ*	√
	i) Cultivation	
	ii) Levels of difficulty in propagation / cultivation	Not tested
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 7

1	**Botanical name**		***Clerodendrum serratum* (L) Moon**							
2	**Basionys/Synonym(s)**		-							
3	**Family**		**Verbenaceae**							
4	**Taxonomic status**		Species							
5	**Vernacular names**		Baranghi (H)							
6	**Habit**		Shrub							
7	**Habitat**		Tropical Most deciduous forests.							
8	**Original global distribution**		Indo- malesia,S.Africa to Madagascar.							
9	**Current regional distribution**		• Jabalpur, • Amarkantak, • Indore, • Patalkoat.							
10	**Elevation range (M)**		900-1,300							
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**				
					√					
11	**Time/Rate(Year/generation)**		3 Generation							
12	**Extend of occurrence (EOO)**		Km^2	>20,000						
13	**Area of occurrence (AOO)**		Km^2	>2,000						
14	**No. of location /Sub-Population**		Kanger valley, Bailladila Amarkantak, Pachmari plateau.							
14 a	**Data quality**		3, 4							
15	**Threads**		Hm, Lp, Tp.							
16	**Trade**	**Names**	Baranghi							
		Level(S)	Local	√	Regional	√	National		Global	
		Part traded	Roots, Bark, Leaves							
		Effect of population	Declining							
		Data quality	3, 4							
17	**Other comments**		• In M.P and Chattisgarh the species is found in moist forest of the hills.							
18.	**Recent field of studies**									
19.	**Status**									
	- CITIES		-							
	- Legislation		-							
	- Criteria based on		**A2cd**							
	- IUCN		**EN**							
20.	**% of global distribution**		<1%							
21.	**Existing conservation measure**		Nil							
22.	**Is the presence of taxon continuous with neighboring areas**		Yes							
23.	**Are the outside population also under similar threads /pressure**		Yes							

24.	**Recommendations**	
	Research /Management	Regeneration studies Control destructive harvesting seed biology and propagation studies.
	a. i*n-Situ*	Gandhi & Salewara.
	b. *ex–Situ*	
	i) Cultivation	Seed and stem cutting
	ii) Levels of difficulty in propagation / cultivation	2 (Moderately difficult)
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 8

1	**Botanical name**		***Costus speciosus* (J. Koenig ex Retz.) Sm.**						
2	**Basionys/Synonym(s)**		*Banksea speciosa* J. Koenig						
3	**Family**		**Costaceae**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Keokanda						
6	**Habit**		Herb						
7	**Habitat**		Sal forest and deforested lands in shady places						
8	**Original global distribution**		India, SriLanka, SE Asia, Africa, Australiya.						
9	**Current regional distribution**		• Balaghat, • Hoshangabad, • Damoh, • Sidhi, • Rewa, • Mandla, • Seoni, • Dindori.						
10	**Elevation range (M)**		200-1000						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11	**Time/Rate(Year/generation)**		10 Years						
12	**Extend of occurrence (EOO)**		Km^2	>20,000					
13	**Area of occurrence (AOO)**		Km^2	>2,000					
14	**No. of location /Sub-Population**		Wide distribution.						
14 a	**Data quality**		3, 4						
15	**Threads**		Hm, Tp, Hf.						
16	**Trade**	**Names**	Keo-kanda						
		Level(S)	Local	√	Regional	√	National	√	Global
		Part traded	Rhizome						
		Effect of population	Declining						
		Data quality	3, 4						
17	**Other comments**		Seed information become scanty due to early harvesting.						
18.	**Recent field of studies**		Tiwari *et.al.*2002-2003 Shrivastava, O.L. & Sumita Shrivatava, 1997-99 SFRI publication, 1990-2000.						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**VU**						
20.	**% of global distribution**		<5%						
21.	**Existing conservation measure**		Nil						
22.	**Is the presence of taxon continuous with neighboring**		Yes						

	areas	
23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	Multiplication in protected area, Sustainable harvesting techniques, Seed biology, Growth behavior.
	a. i*n-Situ*	Mandla.
	b. *ex–Situ*	
	i) Cultivation	Experimentation on agronomy as well as fertilizers.
	ii) Levels of difficulty in propagation / cultivation	1 (Least difficult)
25	**Existing cultivation**	Yes (<1%)
26.	**Previous assessment**	

DATA SHEET – 9

1	**Botanical name**		***Curcuma zedoaria* (Christ.) Roscoe.**						
2	**Basionys/Synonym(s)**		*Amomum zedoria*						
3	**Family**		**Zingiberaceae**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Narakchur						
6	**Habit**		Annual shrub						
7	**Habitat**		Undergrowth in moist deciduous forests						
8	**Original global distribution**		Paleotropic						
9	**Current regional distribution**		• Betul, • Hoshangabad, • Chindwara, • Shahdol.						
10	**Elevation range (M)**		Up to 600						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11	**Time/Rate(Year/generation)**		10 Years						
12	**Extend of occurrence (EOO)**		Km^2	>20,000					
13	**Area of occurrence (AOO)**		Km^2	>2,000					
14	**No. of location /Sub-Population**		Fragmented.						
14 a	**Data quality**		2, 3, 4						
15	**Threads**		Hm, Tp, Sf, Sd.						
16	**Trade**	**Names**	Narakchur						
		Level(S)	Local	√	Regional	√	National	√	Global	√
		Part traded	Tuber (Oil)						
		Effect of population	Declining (Over 80% decline in last 30 years.)						
		Data quality	2, 3, 4						
17	**Other comments**		-						
18.	**Recent field of studies**		Oudhai, P. 2003. **www.botanical.com**						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**VU**						
20.	**% of global distribution**		<1%						
21.	**Existing conservation measure**		Nil						
22.	**Is the presence of taxon continuous with neighboring areas**		Yes						
23.	**Are the outside population also under similar threads /pressure**		Yes						
24.	**Recommendations**								
	Research /Management		Hm (Habitat management.)						
	a. i*n-Situ*		• Jagdalpur (Near),						

		• Kewchp-Lamni (Bilaspur).
	b. *ex–Situ*	-
	i) Cultivation	2
	ii) Levels of difficulty in propagation / cultivation	1 (Least difficult)
25	**Existing cultivation**	Nil
26.	**Previous assessment**	

DATA SHEET – 10

1	**Botanical name**		***Dillenia pentagyna* Roxb.**						
2	**Basionys/Synonym(s)**		-						
3	**Family**		**Dilleniaceae**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Aggai, Kallai, Kalle.						
6	**Habit**		Tree.						
7	**Habitat**		In valleys and high elevation.						
8	**Original global distribution**		Indo-Burma, Southern Asia, North Queans land.						
9	**Current regional distribution**		• Mandla (Kisli), • Mandla (Sarhi), • Betul (Khibrlsa), • Balaghat (Langi), • Balaghat (Udhatshar).						
10	**Elevation range (M)**		300- 600						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11	**Time/Rate(Year/generation)**		3 Generations.						
12	**Extend of occurrence (EOO)**		Km^2	>20,000					
13	**Area of occurrence (AOO)**		Km^2	>2,000					
14	**No. of location /Sub-Population**		3						
14 a	**Data quality**		2, 3, 4						
15	**Threads**		Hm, Tp, Lf, Hp.						
16	**Trade**	**Names**	Kalle.						
		Level(S)	Local	√	Regional	√	National		Global	
		Part traded	Leaves, Bark.						
		Effect of population	Declining						
		Data quality	2, 3, 4						
17	**Other comments**		Restricted mostly to protected area. Leaves used in bone fractures. Bark powder used in wound healing.						
18.	**Recent field of studies**		Pandey & Shrivastava 1996, Sharma 2004.						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**VU**						
20.	**% of global distribution**		<1%						
21.	**Existing conservation measure**		Nil						
22.	**Is the presence of taxon continuous with neighboring areas**		Yes						
23.	**Are the outside population also under similar threads /pressure**		Yes						

24.	**Recommendations**	
	Research /Management	Hm, S, M, Lf.
	a. i*n-Situ*	√
	b. *ex–Situ*	
	i) Cultivation	Not known
	ii) Levels of difficulty in propagation / cultivation	Not known
25	**Existing cultivation**	Nil
26.	**Previous assessment**	Nil

DATA SHEET – 11

1	**Botanical name**		***Dioscorea bulbifera.* L.**						
2	**Basionys/Synonym(s)**		*Dioscorea sativa* Thumb.						
3	**Family**		**Dioscoreaceae**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Varahikand						
6	**Habit**		Climber						
7	**Habitat**		Dry mixed forest						
8	**Original global distribution**		India.						
9	**Current regional distribution**		Through out.						
10	**Elevation range (M)**		300-800						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11	**Time/Rate(Year/generation)**		10 Years						
12	**Extend of occurrence (EOO)**		Km^2	>20,000					
13	**Area of occurrence (AOO)**		Km^2	>2,000					
14	**No. of location /Sub-Population**		Widely distributed.						
14 a	**Data quality**		2, 3, 4						
15	**Threads**		E, Hm, L, Tp.						
16	**Trade**	**Names**	Hf, S.						
		Level(S)	Local	√	Regional	√	National		Global	
		Part traded	Tubers						
		Effect of population	Declining						
		Data quality	2, 3, 4						
17	**Other comments**		It has high food value.						
18.	**Recent field of studies**		-						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**VU**						
20.	**% of global distribution**		<1%						
21.	**Existing conservation measure**		No						
22.	**Is the presence of taxon continuous with neighboring areas**		Yes						
23.	**Are the outside population also under similar threads /pressure**		Yes						

24.	**Recommendations**	
	Research /Management	S (Survey, search and find.), M (Monitoring).
	a. i*n-Situ*	• Bhopal, • Samarda, • Raigarh, • Mandla (Moti Nala), • Chinwara (Patalkot).
	b. *ex–Situ*	-
	i) Cultivation	-
	ii) Levels of difficulty in propagation / cultivation	2 (Moderately difficult)
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 12

1	**Botanical name**		***Embelia tsjeriam-cottam* DC.**						
2	**Basionys/Synonym(s)**		*Embelia robusta* C.B. Clarke non-Roxb.						
3	**Family**		**Myrsinaceae**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Bailbirang, Vidayng, Vaividang.						
6	**Habit**		Shrub						
7	**Habitat**		In mixed deciduous forests						
8	**Original global distribution**		Indo Malayan region.						
9	**Current regional distribution**		Through out.						
10	**Elevation range (M)**		200-1000						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11	**Time/Rate(Year/generation)**		3 Generations						
12	**Extend of occurrence (EOO)**		Km^2	>20,000					
13	**Area of occurrence (AOO)**		Km^2	>2,000					
14	**No. of location /Sub-Population**		>500 locations						
14 a	**Data quality**		2, 3, 4						
15	**Threads**		Hm, T, Sf, L.						
16	**Trade**	**Names**	Baibirang						
		Level(S)	Local	√	Regional	√	National	√	Global	√
		Part traded	Seeds						
		Effect of population	Declining						
		Data quality	2, 3, 4						
17	**Other comments**		Sustainable harvesting should be promoted.						
18.	**Recent field of studies**		• Asolkar, Kakkar & Chakre, 1965-1981. Glossary of Indian medicinal plants with active principles. Part 1., • MHFW & H, 2001-02, Vol. I.						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**NT**						
20.	**% of global distribution**		>30%						
21.	**Existing conservation measure**		-						
22.	**Is the presence of taxon continuous with neighboring areas**		Yes						
23.	**Are the outside population also under similar threads /pressure**		Yes						

24.	**Recommendations**	
	Research /Management	Hm (Habitat management.), S (Survey, search and find.)
	a. i*n-Situ*	Amarkantak.
	b. *ex–Situ*	-
	i) Cultivation	3
	ii) Levels of difficulty in propagation / cultivation	2 (Moderately difficult)
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 13

1	**Botanical name**		***Equisetum ramosissimum* Desf.**
2	**Basionys/Synonym(s)**		*Equisetem debile* Roxb. Ex Vauch.
3	**Family**		**Equisetaceae**
4	**Taxonomic status**		Species
5	**Vernacular names**		Medju, Maringir
6	**Habit**		Large herb
7	**Habitat**		Shady damp areas, in sandy alluvial humus soil lower elevation.
8	**Original global distribution**		
9	**Current regional distribution**		• Hoshangabad (Malakhedi), • Shahdol (Dughadhara, • Mandla (Mawai), • Rewa (Bouti).
10	**Elevation range (M)**		300-800
11	**Population reduction (pl. tick in appropriate cell)**		**<30%** | **30 to 49%** | **50 to 80%** | **>80%** | | √ |
11	**Time/Rate(Year/generation)**		10 Years
12	**Extend of occurrence (EOO)**		Km^2 >20,000
13	**Area of occurrence (AOO)**		Km^2 >2,000
14	**No. of location /Sub-Population**		4
14 a	**Data quality**		2, 3, 4
15	**Threads**		E, Hm, L, Encroachment for cultivation. Collection for academic purposes.
16	**Trade**	**Names**	
		Level(S)	Local | Regional √ | National √ | Global
		Part traded	Whole plant, Rhizome and stem as teaching aid (Lab) material.
		Effect of population	Declining
		Data quality	2, 3, 4
17	**Other comments**		Used as antidote for snake, scorpion and insect bites.
18.	**Recent field of studies**		Upadhyaya *et al.* 2004, Sharma 2004, Masih 1994.
19.	**Status**		
	- CITIES		-
	- Legislation		-
	- Criteria based on		**A2cd**
	- IUCN		**EN**
20.	**% of global distribution**		<1%
21.	**Existing conservation measure**		No
22.	**Is the presence of taxon continuous with neighboring areas**		Yes
23.	**Are the outside population also under similar threads /pressure**		Yes

24.	**Recommendations**	
	Research /Management	S, Lr, Hm, M.
	a. i*n-Situ*	√
	b. *ex–Situ*	Can be done
	i) Cultivation	Nil
	ii) Levels of difficulty in propagation / cultivation	Nil
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 14

1	**Botanical name**		***Glorisa superba* L.**						
2	**Basionys/Synonym(s)**		*Methonia superba* Lamk.						
3	**Family**		**Liliaceae**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Kalihari, Karkari, Langali, Glori lily.						
6	**Habit**		Climbing herb						
7	**Habitat**								
8	**Original global distribution**		Through out tropical Asia and Africa.						
9	**Current regional distribution**		• Hoshangabad, • Burhanpur, • Betul, • Moist district.						
10	**Elevation range (M)**		280-500						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11	**Time/Rate(Year/generation)**		10 Years.						
12	**Extend of occurrence (EOO)**		Km^2	>5,000					
13	**Area of occurrence (AOO)**		Km^2	>2,000					
14	**No. of location /Sub-Population**		18						
14 a	**Data quality**		2, 3, 4						
15	**Threads**		Hm, T, Sd, L, Sf.						
16	**Trade**	**Names**	Kalihari, Karkari, Langali.						
		Level(S)	Local	√	Regional	√	National	√	Global	√
		Part traded	Rhizome, Seeds.						
		Effect of population	Declining (10 % decrease in last 10 years; 20% decrease expected in next 10 years.)						
		Data quality	2, 3, 4						
17	**Other comments**		-						
18.	**Recent field of studies**		• A.K. Bahttacharya & Krishna Patra- MPMFP Federation publication, • Oudhai P. 2003. **www.botanical.com**						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**VU**						
20.	**% of global distribution**		<1%						
21.	**Existing conservation measure**		No substantial cultivation.						
22.	**Is the presence of taxon continuous with neighboring areas**		Yes						
23.	**Are the outside population also under similar threads /pressure**		Yes						

24.	**Recommendations**	
	Research /Management	Hm (Habitat management.), S (Survey, search and find.), M (Monitoring).
	a. i*n-Situ*	-
	b. *ex–Situ*	-
	i) Cultivation	3
	ii) Levels of difficulty in propagation / cultivation	1 (Least difficult)
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 15

1	**Botanical name**		***Gymnema sylvestre* R. Br.**
2	**Basionys/Synonym(s)**		*Periploca sylvestris* Retz.
3	**Family**		**Asclepiadaceae**
4	**Taxonomic status**		Species
5	**Vernacular names**		Gurmar, Merasingi.
6	**Habit**		Large climber
7	**Habitat**		In sal and mixed deciduous forests
8	**Original global distribution**		Paleotropic.
9	**Current regional distribution**		• Hoshangabad, • Chattarpur, • Betul, • Damoh, • Khandwa, • Jabalpur, • Narsinhpur, • Rewa, • Satar, • Sehore.
10	**Elevation range (M)**		Up to 450
11	**Population reduction (pl. tick in appropriate cell)**		**<30%** | **30 to 49%** | **50 to 80%** | **>80%** √ | | |
11	**Time/Rate(Year/generation)**		10 Years.
12	**Extend of occurrence (EOO)**		Km^2 >20,000
13	**Area of occurrence (AOO)**		Km^2 >2,000
14	**No. of location /Sub-Population**		13
14 a	**Data quality**		2, 4
15	**Threads**		Hm, T, Ov (Over harvesting), Sf, Lf (Loss of habitat-Fragmentation), Lp (Loss of habitat- Quality).
16	**Trade**	**Names**	
		Level(S)	Local √ | Regional √ | National √ | Global √
		Part traded	Wole plant.
		Effect of population	Declining
		Data quality	3, 4
17	**Other comments**		• This species have good trade, • Used in anti-diabetic medicines.
18.	**Recent field of studies**		• Tiwari R.K.S. & S.S. Chandrawanshi, 2003. "Technical bulletin on medicinal plants cultivation and uses". IGNU • Bhattacharya P. 2003. "Training manual on medicinal plants- strategies for conservation practices". IIFM, Bhopal.
19.	**Status**		
	- CITIES		-
	- Legislation		-
	- Criteria based on		**A2cd**
	- IUCN		**VU**

20.	**% of global distribution**	1%
21.	**Existing conservation measure**	*In situ* conservation in Peoples Protected Area.
22.	**Is the presence of taxon continuous with neighboring areas**	Yes
23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	In RDF W.C multi tier plantations.
	a. i*n-Situ*	-
	b. *ex–Situ*	-
	i) Cultivation	3
	ii) Levels of difficulty in propagation / cultivation	3 (Very difficult), Propagation is difficult, only 25% success.
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 16

1	**Botanical name**		***Litsea glutinosa* (Lour.) C. B. Robinson.**
2	**Basionys/Synonym(s)**		*Litsea sebifera* Pers. *Sebifera glutinosa* Lour.
3	**Family**		**Louraceae**
4	**Taxonomic status**		Species
5	**Vernacular names**		Maida Lakri.
6	**Habit**		Tree
7	**Habitat**		Along streams, on hill slopes and in sal mixed forests
8	**Original global distribution**		Sub tropical and tropical Asia.
9	**Current regional distribution**		• Hoshangabad, • Mandla, • Panna, • Seoni, • Shivpuri, • Sagar, • Rewa,
10	**Elevation range (M)**		Up to 1000
11	**Population reduction (pl. tick in appropriate cell)**		**<30%** | **30 to 49%** | **50 to 80%** | **>80%** | √ | |
11	**Time/Rate(Year/generation)**		3 Generations.
12	**Extend of occurrence (EOO)**		Km^2 >20,000
13	**Area of occurrence (AOO)**		Km^2 >2,000
14	**No. of location /Sub-Population**		13
14 a	**Data quality**		2, 4
15	**Threads**		Hm, Sf, Lf, Sd, Tp.
16	**Trade**	**Names**	Maida lakri
		Level(S)	Local √ Regional √ National √ Global √
		Part traded	Bark
		Effect of population	Declining
		Data quality	2, 3, 4
17	**Other comments**		• Gum of the bark is used to make Agarbatti, • Natural regeneration of the species is almost absent. Natural regeneration is by coppicing.
18.	**Recent field of studies**		Mudgal V., K.K. Khanna & P.K. Hajra, 1977. Flora of M.P. Vol. II; B.S.I.
19.	**Status**		
	- CITIES		-
	- Legislation		-
	- Criteria based on		**A2cd**
	- IUCN		**VU**
20.	**% of global distribution**		<5%
21.	**Existing conservation measure**		Further exploitation banned.
22.	**Is the presence of taxon continuous with neighboring areas**		Yes (U.P., Bihar, Orissa, Arunachal Pradesh)
23.	**Are the outside population also**		Yes

	under similar threads /pressure	
24.	**Recommendations**	
	Research /Management	S, M, Hm.
	a. i*n-Situ*	Chitrakoot, Shivpuri.
	b. *ex–Situ*	-
	i) Cultivation	3
	ii) Levels of difficulty in propagation / cultivation	3 (Very difficult).
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 17

1	**Botanical name**		***Nervilia plicata* (Andr.) Schlechter.**						
2	**Basionys/Synonym(s)**		*Arethusa plicata* Andr. *Pogonia plicata* (Andr.) Lindl.						
3	**Family**		**Orchidaceae.**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Bhuischati.						
6	**Habit**		Terrestrial herb.						
7	**Habitat**		Damp, dark shady places with high humus soil.						
8	**Original global distribution**		Sub tropical regions of old World.						
9	**Current regional distribution**		• Hoshangabad (Tewa), • Seoni (Pench), • Chhindwara (Patalkot).						
10	**Elevation range (M)**		400-700						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
					√				
11	**Time/Rate(Year/generation)**		10 Years.						
12	**Extend of occurrence (EOO)**		Km^2	>2000					
13	**Area of occurrence (AOO)**		Km^2	>200					
14	**No. of location /Sub-Population**		4						
14 a	**Data quality**		2, 3, 4.						
15	**Threads**		Lp, E, 7						
16	**Trade**	**Names**							
		Level(S)	Local		Regional		National	√	Global
		Part traded							
		Effect of population	Declining						
		Data quality	2, 3, 4						
17	**Other comments**		Loss due to heavy biotic pressure, grazing, species of ecological and taxonomically importance, representative of evergreen habitat.						
18.	**Recent field of studies**		Upadhyaya 2005, Shrivastava 2001, Rai 2004.						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2c**						
	- IUCN		**EN**						
20.	**% of global distribution**		1%						
21.	**Existing conservation measure**		Nil						
22.	**Is the presence of taxon continuous with neighboring areas**		Yes						
23.	**Are the outside population also under similar threads /pressure**		Yes						

24.	**Recommendations**	
	Research /Management	S, M, T, Hm, Lh.
	a. i*n-Situ*	√
	b. *ex–Situ*	Does not exist.
	i) Cultivation	Does not exist.
	ii) Levels of difficulty in propagation / cultivation	Not known.
25	**Existing cultivation**	No
26.	**Previous assessment**	No

DATA SHEET – 18

1	**Botanical name**		***Pueraria tuberosa* (Roxb. Ex. Willd) DC.**
2	**Basionys/Synonym(s)**		*Hedysarum tuberosum* Roxb. Ex Willd.
3	**Family**		**Fabaceae.**
4	**Taxonomic status**		Species
5	**Vernacular names**		Bidarikand, Badrikand, Bankumhra, Bandrapatel, Patel Kumhra, Bhujnkumhrd.
6	**Habit**		Large woody climber, roots tuberous.
7	**Habitat**		-
8	**Original global distribution**		India, Pakistan, Nepal.
9	**Current regional distribution**		• Gwalior (Kanher jhir), • Shivpuri, • Ashoknagar (Chandari), • Guna (Guna forest), • Sagar (River side), • Mandla, • Balaghat (Lamte forest, Baihar forest), • Mandla (Supkhar), • Rahli (Karta), • Jabalpur (Kundam, Patalpani), • Rewa (Ovary kakredi), • Indore (Shittamata fall).
10	**Elevation range (M)**		200-500
11	**Population reduction (pl. tick in appropriate cell)**		**<30%** | **30 to 49%** | **50 to 80%** | **>80%** | | √ |
11	**Time/Rate(Year/generation)**		25 Years.
12	**Extend of occurrence (EOO)**		Km^2
13	**Area of occurrence (AOO)**		Km^2
14	**No. of location /Sub-Population**		11
14 a	**Data quality**		2, 3, 4.
15	**Threads**		E, Hf, Ic, Lf, Lp, Ov, Sd, Tp.
16	**Trade**	**Names**	Bidarikand
		Level(S)	Local √ Regional √ National √ Global
		Part traded	Tubers.
		Effect of population	Declining
		Data quality	2, 3, 4
17	**Other comments**		Flowers- Feb.- Mar.; Fruits- Apr. Tubers used for treatment of Dysuria, cough, rheumatism and malarial feaver (In southern states).
18.	**Recent field of studies**		D.P. Verma 2004. T.P. Sahu 2005, A.K. Jain 2003.
19.	**Status**		
	- CITIES		-
	- Legislation		-
	- Criteria based on		**A2cd**
	- IUCN		**EN**
20.	**% of global distribution**		<1%
21.	**Existing conservation measure**		Nil

22.	**Is the presence of taxon continuous with neighboring areas**	Yes
23.	**Are the outside population also under similar threads /pressure**	Yes
24.	**Recommendations**	
	Research /Management	
	a. i*n-Situ*	√
	b. *ex–Situ*	√
	i) Cultivation	
	ii) Levels of difficulty in propagation / cultivation	Not tried.
25	**Existing cultivation**	No
26.	**Previous assessment**	-

DATA SHEET – 19

1	**Botanical name**		***Phyllanthus emblica* L.**
2	**Basionys/Synonym(s)**		*Emblica officinalis* Gaertn.
3	**Family**		**Euphorbiaceae**
4	**Taxonomic status**		Species
5	**Vernacular names**		Anola, Amla.
6	**Habit**		Tree
7	**Habitat**		Mixed forests
8	**Original global distribution**		Tropics.
9	**Current regional distribution**		• Guna, • Damoh, • Hattarpur, • Hoshangabad, • Mandla, • Tikamgarh.
10	**Elevation range (M)**		200-1,200
11	**Population reduction (pl. tick in appropriate cell)**		**<30%** | **30 to 49%** | **50 to 80%** | **>80%** | √ |
11	**Time/Rate(Year/generation)**		10 Years.
12	**Extend of occurrence (EOO)**		Km^2 >20,000
13	**Area of occurrence (AOO)**		Km^2 >2,000
14	**No. of location /Sub-Population**		Many
14 a	**Data quality**		3, 4.
15	**Threads**		Hm, Tp.
16	**Trade**	**Names**	Anola
		Level(S)	Local √ | Regional √ | National √ | Global √
		Part traded	Fruit
		Effect of population	Declining
		Data quality	3, 4
17	**Other comments**		Destructive harvesting of fruits to be checked, Seed establishment of wild plants should be supported.
18.	**Recent field of studies**		• S. N. Khotele, 1998-01, • Anon. 2001-2002. Trade- Demand- Supply study for selected medicinal plants- Vol. I, Centre for Research, Planning and Action.
19.	**Status**		
	- CITIES		-
	- Legislation		-
	- Criteria based on		**A2cd**
	- IUCN		**VU**
20.	**% of global distribution**		<1%
21.	**Existing conservation measure**		Protection through legislation.
22.	**Is the presence of taxon continuous with neighboring areas**		Yes
23.	**Are the outside population also under similar threads /pressure**		Yes

24.	**Recommendations**	
	Research /Management	Best germplasms- Panna & Tawai, Shikara (Jabalpur), Satna & Sagar.
	a. i*n-Situ*	
	b. *ex–Situ*	
	i) Cultivation	Improved varieties are being cultivated.
	ii) Levels of difficulty in propagation / cultivation	1 (Least difficult).
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 20

1	**Botanical name**		***Pterocarpus marsupium* Roxb.**						
2	**Basionys/Synonym(s)**		-						
3	**Family**		**Fabaceae**						
4	**Taxonomic status**		Species						
5	**Vernacular names**		Bijasal, Bija, Pharri.						
6	**Habit**		Tree						
7	**Habitat**		Tropica dry deciduous forests.						
8	**Original global distribution**		Paninsula and S. India.						
9	**Current regional distribution**		All over the state.						
10	**Elevation range (M)**		200-1,200						
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**			
				√					
11	**Time/Rate(Year/generation)**		10 Years.						
12	**Extend of occurrence (EOO)**		Km^2	>20,000					
13	**Area of occurrence (AOO)**		Km^2	>2,000					
14	**No. of location /Sub-Population**		-						
14 a	**Data quality**		1, 3.						
15	**Threads**		E, Hm, L, Tp, Sf.						
16	**Trade**	**Names**	Bija						
		Level(S)	Local	√	Regional	√	National	√	Global	√
		Part traded	Wood, Gum						
		Effect of population	Declining						
		Data quality	1, 3.						
17	**Other comments**		-						
18.	**Recent field of studies**		R. K. Pandey *et. al.* 1992-2000. Project report.						
19.	**Status**								
	- CITIES		-						
	- Legislation		-						
	- Criteria based on		**A2cd**						
	- IUCN		**VU**						
20.	**% of global distribution**		10-15%						
21.	**Existing conservation measure**		-						
22.	**Is the presence of taxon continuous with neighboring areas**		Yes						
23.	**Are the outside population also under similar threads /pressure**		-						

24.	**Recommendations**	
	Research /Management	Seed biology, Regeneration studies, Studies on biotic impact.
	a. i*n-Situ*	-
	b. *ex–Situ*	-
	i) Cultivation	-
	ii) Levels of difficulty in propagation / cultivation	3 (Highly difficult).
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 21

1	**Botanical name**		***Rubia cordifolia* L.**
2	**Basionys/Synonym(s)**		*Rubia cordifolia* L. var. manjista (Roxb.) Miq.
3	**Family**		**Rubiaceae**
4	**Taxonomic status**		Species
5	**Vernacular names**		Munjeeth, Kusheer, Pilio.
6	**Habit**		Climbing herb.
7	**Habitat**		Mixed forests.
8	**Original global distribution**		Africa, Asia and Australia.
9	**Current regional distribution**		Amarkantak.
10	**Elevation range (M)**		1,000-1,500
11	**Population reduction (pl. tick in appropriate cell)**		**<30%** | **30 to 49%** | **50 to 80%** | **>80%** | √ |
11	**Time/Rate(Year/generation)**		10 Years.
12	**Extend of occurrence (EOO)**		Km^2 >20,000
13	**Area of occurrence (AOO)**		Km^2 >2,000
14	**No. of location /Sub-Population**		Many
14 a	**Data quality**		3, 4.
15	**Threads**		Hm, L, Tp.
16	**Trade**	**Names**	Bija
		Level(S)	Local √ Regional √ National √ Global √
		Part traded	Root
		Effect of population	Declining
		Data quality	3, 4.
17	**Other comments**		• Excessive exploitation of roots, • *Rubia cordifolia* is a complex group distributed in Africa, Asia and Australia. *Rubia manjith* Roxb. ex Flem. is a distinct race restricted to Eastern Himalaya (Wealth of Asia, 1994). Therefore, the occurance of *Rubia manjith* in MP is ruled out. Therefor, the species considered for assessment in MP is *Rubia cordifolia* L. sensu. Hook. f.
18.	**Recent field of studies**		R. K. Pandey, 1998-2002. SFRI.
19.	**Status**		
	- CITIES		-
	- Legislation		-
	- Criteria based on		**A2cd**
	- IUCN		**VU**
20.	**% of global distribution**		<1%
21.	**Existing conservation measure**		-
22.	**Is the presence of taxon continuous with neighboring areas**		Yes
23.	**Are the outside population also under similar threads /pressure**		Yes

24.	**Recommendations**	
	Research /Management	Seed biology, Propagation techniques in ex situ, Protection, Reduction in destructive harvesting.
	a. i*n-Situ*	
	b. *ex–Situ*	Conservation in ex situ through development of gene banks.
	i) Cultivation	-
	ii) Levels of difficulty in propagation / cultivation	3 (Very difficult).
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 22

1	**Botanical name**		***Thalictrum foliolosum* DC.**
2	**Basionys/Synonym(s)**		-
3	**Family**		**Ranunculaceae**
4	**Taxonomic status**		Species
5	**Vernacular names**		Mamiri, Pilazari.
6	**Habit**		Herb.
7	**Habitat**		On slopes of ravines in shades of rocks, cool places.
8	**Original global distribution**		New Guinea, tropical America, tropical and sub tropical Africa, India, Himalayan region.
9	**Current regional distribution**		• Amarkantak, • Chhinwara, • Hoshangabad, • Pachmarhi.
10	**Elevation range (M)**		900-1,300
11	**Population reduction (pl. tick in appropriate cell)**		**<30%** | **30 to 49%** | **50 to 80%** | **>80%** | √ | |
11	**Time/Rate(Year/generation)**		10 Years.
12	**Extend of occurrence (EOO)**		Km^2 >20,000
13	**Area of occurrence (AOO)**		Km^2 >2,000
14	**No. of location /Sub-Population**		<20 sites.
14 a	**Data quality**		3, 4.
15	**Threads**		Hm, Lp, Tp.
16	**Trade**	**Names**	Mamiri
		Level(S)	Local √ Regional √ National √ Global
		Part traded	Root
		Effect of population	Declining
		Data quality	3, 4.
17	**Other comments**		• Observed in few localities in Amarkantak, • Habitat needs protection, • Local people collect roots on the demand from traders.
18.	**Recent field of studies**		-
19.	**Status**		
	- CITIES		-
	- Legislation		-
	- Criteria based on		**A2cd**
	- IUCN		**VU**
20.	**% of global distribution**		<1%
21.	**Existing conservation measure**		-
22.	**Is the presence of taxon continuous with neighboring areas**		Yes
23.	**Are the outside population also under similar threads /pressure**		Yes

24.	**Recommendations**	
	Research /Management	Specific sites need to protect.
	a. i*n-Situ*	Amarkantak, Jagatpur, Chada, Bajag.
	b. *ex–Situ*	-
	i) Cultivation	-
	ii) Levels of difficulty in propagation / cultivation	3 (Very difficult) {Reference HAPPRC on propagation}.
25	**Existing cultivation**	-
26.	**Previous assessment**	-

DATA SHEET – 23

1	**Botanical name**		***Uraria picta* (Jacq.) Desv. ex DC.**					
2	**Basionys/Synonym(s)**		*Hedysarum pictum* (Jacq.)					
3	**Family**		**Fabaceae**					
4	**Taxonomic status**		Species					
5	**Vernacular names**		Prashnaparni (Hindi).					
6	**Habit**		Perennial under shrub					
7	**Habitat**		Forest fringe areas as under growth.					
8	**Original global distribution**		Asia, Africa, Australia.					
9	**Current regional distribution**		All over M.P.					
10	**Elevation range (M)**		Up to 1000					
11	**Population reduction (pl. tick in appropriate cell)**		**<30%**	**30 to 49%**	**50 to 80%**	**>80%**		
				√				
11	**Time/Rate(Year/generation)**		10 Years.					
12	**Extend of occurrence (EOO)**		Km^2	>20,000				
13	**Area of occurrence (AOO)**		Km^2	>2,000				
14	**No. of location /Sub-Population**		In pockets.					
14 a	**Data quality**		2, 3, 4.					
15	**Threads**		Hm, Hp, Lp, Sd, Sf, T.					
16	**Trade**	**Names**	Prashnaparni					
		Level(S)	Local	√	Regional	√	National	√	Global	√
		Part traded	Whole plant.					
		Effect of population	Declining					
		Data quality	3, 4.					
17	**Other comments**		Complete plant is used there by threatening the population.					
18.	**Recent field of studies**							
19.	**Status**							
	- CITIES		-					
	- Legislation		-					
	- Criteria based on		**A2cd**					
	- IUCN		**VU**					
20.	**% of global distribution**		<1%					
21.	**Existing conservation measure**		Not known.					
22.	**Is the presence of taxon continuous with neighboring areas**		Yes					
23.	**Are the outside population also under similar threads /pressure**		Yes					

24.	**Recommendations**	
	Research /Management	S (Survey, search & find).
	a. i*n-Situ*	-
	b. *ex–Situ*	-
	i) Cultivation	-
	ii) Levels of difficulty in propagation / cultivation	1 (Least difficult).
25	**Existing cultivation**	Not known.
26.	**Previous assessment**	-

7. SUMMARY & CONCLUSION

Madhya Pradesh has 18 tribal districts with more than 65-70% population of tribals, this in itself reflects that there must be a sizeable presence of plant conservation areas. In Madhya Pradesh, although the presence of Sacred Groves were reported way back in 1970's by Gadgil and Vartak (1974) and Gokhale *et al.,* (2001), no study was initiated to know the status and conservation values of Sacred Groves. The identification and inventorization is being done through this project for the first time. District Dindori is taken for the inventorization of SG's with following objectives;

- To study the status of sacred groves.
- To inventories the floral and faunal diversity.
- To study the status of endemic, rare and threatened medicinal plants in sacred grooves
- To study the traditional knowledge of natural recourses and their value
- Awareness campaign among the local people about the natural recourse and their utilization

To fulfill the above objectives the following line of methods has been followed. To assess the diversity of medicinal plants, seasonal periodical survey has been done in the sacred groves. Phytosociological studies and vegetation analysis were carried out through quadrate method. Diversity index has been studied through Shannon & Simpson index. Status of rare and endangered medicinal plants is prepared and its degree was assessed. UNESCO model were consulted to work out the status of endangered species. IUCN red list category for evaluating the status of medicinal plants was followed as per literature.

OBSERVATION

Status of Sacred Groves

On the bases of survey done for the identification of sacred groves in Dindori district a total of 18 sacred groves are listed (**Table 4)**. They were identified on the basis of the beliefs of the tribals in these places as well as their faith in the deity they identify at this place. At least 50% of these places are still in very good condition and can provide a very good *in situ* conservation site for threatened species as well as habitat. One of the most important feature found at Sacred Groves almost these areas have a perennial water source within the very premises of worship while at other places the water body is present every near to them. The other important aspect is the presence of some threatened species especially trees.

The identified groves were of various size groups, i.e. $10m^2$, $10\text{-}50m^2$, $>50m^2$, $50\text{-}100m^2$, $>100m^2$. They were devoted to different deities such as Banjari mata, Budi mata, Thakur deo, Bada Deo, Mahadev, Narmada maiya *etc*., From the names of the deity we can understand that they revere all natural gods. Banjari mata is the protector of forests. They worship river Narmada as a goddess Narmada maiya, while Bada deo is none other than Mahadev or Lord Shiv. All their beliefs are related with their interaction, dependence and reverence for the nature and its produce. The fundamental principle behind the concept is seen very much in place in this part of the state.

The analysis of data reveals that 18 sacred groves are worshiped during every fetstival. Whereas 9, 6 and 1 sacred groves are specifically worshiped during the Navratri, Prurnuma / Amavashya and Sankranti. 2 sacred groves are worshiped more than 2 times in area during Ramnavmi and Navratri.

The existence of 18 sacred groves are 50 years old or more than that. Only one sacred grove is exist from more than 30 years, it means that most of the sacred groves in natural forested areas are exist since 2 to 3 decds.

6 sacred groves are identified at the distance of 3 kms. from the nearby village. 3 sacred groves are found more than 4 kms., 3, from 1.5 kms and 5, from 2 kms. away from the nearby village.

FLORISTIC COMPOSITION AND PLANT DIVERSITY

All the Sacred Groves form districts Dindori of Madhya Pradesh have been surveyed and inventory of plant diversity were prepared. Total 126 plant species arranged alphabetically with their local name, family name and habit are given in **Table – 6**. The colleced data reflects richness of floral as well as medicinal plants diversity. Availability of plants and associated floristic composition, which is one of the major charachtersitic is distinguishing plants community, varied depending upon sites and other environmental conditions.

Collected data revealed that (Table - 7) 46 large sized trees, 7 small trees, shrubs 7, 43 herbs, 13 climbers, woody climbers 3, 6 grasses and 1 epiphytes are identified from the different sacred groves. Among the total 52 families found in the study sites 26 families were mono typic species as they have only one species. Accordingly 7 families having only 2 species. Whereas 5 families having 3 species, 6 families 4 species, 4 families only 6 species, 1 families is having 7 species and 2 families having 8 speies (Table – 8). The status of ten dominant families determined from the study sites (Table – 9), stated that Paplionaceae is the most dominant family and holds the first position with 8 species follwed by Asteraceae 8 species. The other major dominant families from third position to thenth position are Poaceae, Zingiberaceae, Liliaceae, Euphorbiaceae, Rubiaceae, Discoriaceae, Combretaceae and Ceasalpiniaceae with 7, 6, 6, 6, 6, 4, 4 and 4 species respectively.

PLANT DIVERSITY INDEX

Total 55 tree species were recorded from the area. The findings of obsevation determined with reference to frequency %, density ha^{-1}, basal area m^2 ha^{-1}, IVI and diversity index of all 55 tree species. The total density ha^{-1} in this area was recorded to be 363 trees ha^{-1} out of which the species namely ***Lagerstoemia parviflora***, ***Boswellia serrata*** and ***Lannea coromandelica*** were represented by 69 trees ha^{-1}, 54 trees ha^{-1} and 40 trees ha^{-1} respectively. The total basal area m^2 ha^{-1} occupied by the total tree species is 21.18 m^2 ha^{-1} of which the maximum values were found for species ***Boswellia serrata*** (4.32 m^2 ha^{-1})***, Lannea coromandelica*** (3.06 m^2 ha^{-1}) and ***Lagerstoemia parviflora*** (2.64 m^2 ha^{-1}). The highest IVI values was calculated for ***Boswellia serrata*** (IVI – 41.80%)***, Lagerstoemia parviflora*** (IVI – 38.63%) and ***Lannea coromandelica*** (IVI – 31.85%)***.*** The lowest IVI values of species namely ***Morus alba, Acaccia leucophloea*** and ***Ailanthus excelsa*** determined as IVI – 0.47%, IVI – 0.54% and IVI – 0.57% respectively.

The status of shrub layer which is constituted by an association of 35 species. ***Lantana camara, Holarrhena pubescense*** and ***Nyctanthes arbor-tristis*** represented by 2337 plants ha^{-1}, 1422 plants ha^{-1} and 470 plants ha^{-1} respectively. The maximum IVI values determined for shrub species was by the species namely ***Lantana camara*** (IVI – 59.61%)***, Holarrhena pubescence*** (IVI – 40.54%) and ***Nyctanthes arbor-tristis*** (IVI – 18.40%), whereas minimum values of IVI are shown by the species ***Albizia procera*** as (IVI – 1.94%), ***Buchanania lanzan*** (IVI – 1.94%) and ***Litsea glutinosa*** (IVI – 1.94%).

The observation reveals that maximum IVI values of herbaceous layer in this area was recorded by species *viz* ***Lantana camara*** (IVI – 4.98 %), ***Hyptis suaveolens*** (IVI – 4.66%) and ***Holarrhena pubescense*** (IVI – 3.76%) while minimum value were shown by the species ***Digitaria stricta, Elytraria acaulis*** and ***Ficus benghalensis*** as (IVI – 0.15%), (IVI – 0.15%) and (IVI – 0.15%) respectively. The total density for the 107 species found in this beat is 1220111 plants ha^{-1}. The maximum density is contributed by ***Lantana camara*** (35667 ha^{-1}) followed by ***Hyptis suaveolens*** (33333 ha^{-1}) and ***Holarrhena pubescense as*** (24889 ha^{-1}).

FAUNAL DIVERSITY

A list of 38 wild animals and reptiles are observed during the field survey. The scientific name of the faunal species, english and hindi names are given in the report.

IMPORTANT MEDICINAL PLANTS

Medicinal plants used by different tribal group nearby different sacred groves are also documented. A list of 57 medicinal plants used for particular ailments is prepared**.**

ETHNOBOTANICAL DIVERSITY

Forest resources comprising of all plants, plant parts and their products available in the areas have direct and indirect relationship with the life of local population, tribals, forest dwellers and many other backward inhabitant groups. The sociological system, custom, cultures and life patterns of these groups are also closely related with forests. They utilized forest products for Food, Fodder, Medicine, Fuel, Gum, Agriculture implements, Aromatic Oils, Basketry Works, Charcoal, Decoration, Defense Equipment, Dye, Fencing, Fishing, Furniture, House Building, Hunting equipment's, Implements, Musical instruments, Poison, Rope, Sale / Barter, Smoking, Socio-religious, Timber, Tools, Utensils etc. for their sustenance, daily needs and many other consumer products for self-consumption.

Forests are not only the source of major and minor forest products but it also provides and fulfil the basic needs and demands directly and indirectly in life pattern of these forest dwellers. They also use an enormous range of wild plants and have developed a unique understanding of the forest resources and passed on these traditions, taboos, totems, folklore, traditional medicinal remedies and knowledge etc. by word of mouth from one generation to other generation. They also have the key to understanding, utilizing and conserving the plant resources. The storage of ethnobotanical traditional knowledge of plants and animals origin in memory is really a God gift for a resource person in each tribal group. Each tribal group has different ethnobotanical knowledge than its neighbors, which is either acculturated or lost with the knowledgeable person of that tribe.

Plant species of ethnobotanical importance are recorded from the primary data collected hrough extensive and intensive field survey. List of plant species with their botanical, local and vernacular, their respective family names are already discussed above. Local population of the villages are also involved in collection of food items like vegetables, leaves, fruits, seeds, tubers, pehri etc. for their self sustenance. A total of 81 plant species are resulted under this category. The above plants species are utilized according to their availability during the season and sacristy as raw, after cooking, boiling, when ripe, after making paste, in the form of juice, prickles etc. Plants are also utilized by multipurpose purposes ways in agricultural implements, aromatic purpose, basketry work, decoration, defence equepments, dye and tannin, fancing and protection, fishing and hunting, fibers, fodder, fuel, furniture and house building, implements and tools, sociorelegious and sacred purpose. After the analysis 36, 3, 17, 8, 25, 16, 6, 10, 3, 70, 61, 41 and 21 plants species are recored under above mentioned 14 use categories.

STATUS OF ENDEMIC, RARE AND THREATENED MEDICINAL PLANTS

Inventory of endemic, rare and threatened medicinal plants have been prepared on the bases of seasonal survey and available field informations. IUCN red list category and threat assessment methods for evaluating the status of medicinal plants have been followed as per threat area. Data revealed that no endemic medicinal plant species were identified from the sacred groves. 17 vulernable species, 5 endangered species, 1 near threatened species was

analysed from the collected data. Status of endemic, rare and threatened medicinal plants in all 18 Sacred Groves are analysed and presented in the report with name of plant species, family and threat status of the species. Data sheets of all threatened species have been prepared.

THREATS TO SACRED GROVES

Following threats are observed from the study sites;

7. **Encrochment:** Many instances are observed were the sacred groves have been encroached by local communities as well as by people migrating from out side.
8. **Removal of Biomass:** In many sacred groves, removal of biomass and cattle grazing is permited. Continuation of these practices over generation has resulted in the dwindling of the groves.
9. **Modernisation:** The most recent threats to sacred groves come from the process of mordenisation. Local traditions are be challenged by westernized urban culture. Morden education system fails to instill respect to local traditions. As a result institution of sacred groves is losing its cultural importance for the younger generations of local people.
10. **Sanskritisation:** In many places, local folk deities have been, an continue to be, replaced with Hindu Gods and Goddesses. This has resulted in the erection of the temple in the sacred groves.
11. **Commercial Forestry:** Many sacred groves were destroyed under commercial forestry operations.
12. **Shift in Belief System:** In some places, conversion to other religions has resulted in the degradation of sacred groves.

FUTURE STRATEGIES

16. Understanding local peoples knowledge of resourse and their value
17. Developing and creating awareness among local people about the resource and their values.
18. Preparation of action plan for conservation, protection and augmentation of recourses.
19. During the preparation of Working Plans of the forest division sacred groves should be included.
20. Involvement of the local people in protection and augmentation.

CONCLUSION

Traditional human relationship with plants played an important role in conservation of flora, fauna and individual species. Expanding human population has caused increased natural resources exploitation and alteration of land use pattern. Phyto-diversity rich sacred groves could also have strong human impact. Based on the floristic studies carried out in 48 sacred groves in two district of Madhya Pradesh, it clearly shows that these groves are the hot spots of biological and socio-cultural diversity. The floristic composition also suggested that these were the remnants of the once flourishing forest. About 60% of the plants were medicinally and other also economically important. Many rare, endemic and threatened plants are conserved in these areas. It is a clue that even climax vegetations of various altitudes and latitudes can be conserved in in-situ in these groves. The present study revealed that it is important to do systematic enumeration of these isolated habitates. They could be used as germplasm collection of all the plants in an area. Mico-propagation and tissue culture of the fast disappearing plants of these groves are to be undertaken on a priority bases for conservation.